

CU

AMIGA

EXCLUSIVE!
COMMODORE
UP FOR SALE?

THE MAGAZINE FOR A500, A600, A1200 & CD32 OWNERS

CREATE YOUR OWN GAMES
SENSIBLE SOFTWARE'S AMAZING PROGRAM!

ISSUE 72 AMIGA 500, AMIGA CONVERTIBLE **AMIGA**

SHOOT 'EM UP CONSTRUCTION KIT

Design and shoot your very own shoot 'em up with the superb Shoot 'em Up Construction Kit. The software creates entire levels, allowing you to program anything you want. It's just a matter of putting in your ideas.

1Mb ONLY

NO DISK ATTACHED?
ASK YOUR NEWSAGENT

LIBERATION ON THE CD32
REVIEW OF THE YEAR
OUR TOP PREDICTIONS FOR 1994
MEDIA POINT - MULTIMEDIA MADE EASY
FINAL WRITER - THE ULTIMATE WORD PUBLISHER?
SPECTRACOLOR TUTORIAL

ISSUE 73 AMIGA 500, AMIGA CONVERTIBLE **AMIGA**

MORTAL KOMBAT

TOTALLY EXCLUSIVE

The complete, uncut Mortal Kombat. This is the only version of the game that you can play on the Amiga. It's the only version that you can play on the Amiga. It's the only version that you can play on the Amiga.

1Mb ONLY

NO DISK ATTACHED?
ASK YOUR NEWSAGENT

ANIMATION AND GRAPHICS SPECIAL

DISNEY'S
ALADDIN
WHY THEY USED
THE AMIGA

JIM SACHS
SPEAKS OUT



File & C: 1993 Com Ltd. Software

DPaint v Brilliance
WHICH ONE'S BEST FOR YOU?!

GAMES BONANZA:
BENEATH A STEEL SKY
CANNON FODDER • ZOO 2
KING'S QUEST VI
BODY BLOWS GALACTIC
BRIAN THE LION

JANUARY £3.95
ISSUE 85 CASH OR CREDIT
PFA 996 A12000 A000 170
AN EMAP PUBLICATION



01 X

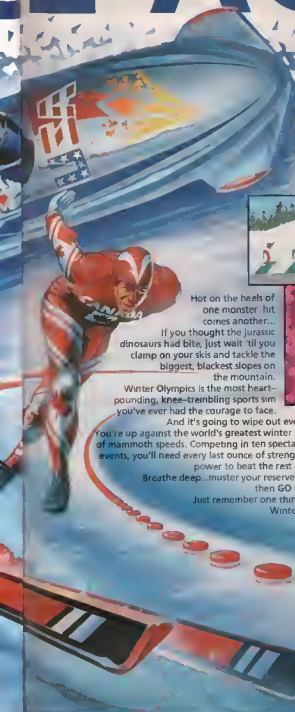
THE ICE



W i n t e r
OLYMPICS

This Winter's hottest game.

E AGE



Hot on the heels of one monster hit comes another... If you thought the Jurassic dinosaurs had bite, just wait 'til you clamp on your skis and tackle the biggest, blackest slopes on the mountain.

Winter Olympics is the most heart-pounding, knee-trembling sports sim you've ever had the courage to face.

And it's going to wipe out everything in its path. You're up against the world's greatest winter sportsmen in a race of mammoth speeds. Competing in ten spectacular snow-capped events, you'll need every last ounce of strength, skill and staying power to beat the rest and tame the piste.

Breathe deep...muster your reserves...focus yourself... then GO GO GO FOR GOLD!

Just remember one thing: never look back. Winter Olympics. It's hot.

AVAILABLE ON:
SEGA MEGA DRIVE,
MASTER SYSTEM, GAME GEAR,
NINTENDO S.NES, AMIGA, PC
AND PC CD-ROM.



0:45:08 096.63 kph



PC: 5. GOLD 0:13:20

Screen shots from a selection of available formats (see above)



© 1993, 1994 by U.S. Gold, all rights reserved. U.S. Gold Inc., 1400 E. Franklin Ave., Portland, OR 97202. Telephone: 503-581-1233. U.S. Gold is a registered trademark of U.S. Gold Inc. TRADE NAMES: "NATURAL" and "MASTER SYSTEM" and "GAME GEAR" are trademarks of Sega Enterprises Ltd. © 1993 SEGA ENTERPRISES LTD. NINTENDO is a service mark of NINTENDO CORPORATION. "SUPERMARIO" and the Super Mario Bros. logo are trademarks of NINTENDO.

poweroptical

| | |
|------------------------------|--------|
| 128MB Optical Internal | £779 |
| 128MB Optical External | £879 |
| 128MB Optical Disk | £39.95 |
| SCSI Controller A2000 | £129 |



Use this optical storage drive to store Amiga floppy disks in onto a 3.5" tape which can be used for an alternative hard disk backup system. What's more you can watch T.V on your 1084s monitor

£60

floptical drive

The Floptical stores 20MB of data on a 3.5" disk (a SCSI interface is required).

| | |
|-------------------------------|------|
| Floptical A2000 Kit | £289 |
| Floptical A500 External | £389 |

syquest drive

3.5" Removable HD from Syquest. Each cartridge stores 105MB. Syquest speed is 17ms.

| | |
|----------------------------------|------|
| 3.5" Syquest SCSI External | £599 |
| 3.5" 105MB Cartridge | £79 |

scsi drives

We can supply SCSI or IDE 3.5" drives in many sizes

| | |
|-------------|------|
| 52QMB | £169 |
| 80MB | £179 |
| 160MB | £249 |
| 200MB | £349 |

ide internal

2.5" Miniature internal HD for the A600/A1200. (These drives come complete with a cable and installation software)

| | |
|-------------------------|------|
| 50MB Internal HD | £139 |
| 60MB Internal HD | £179 |
| 120MB Internal HD | £229 |

icd products

| | |
|---------------------------------|------|
| Trifecta 2000 LX Bare | £139 |
| Trifecta 2000 LX 80MB HD | £239 |
| Trifecta 2000 LX 160MB HD | £329 |
| Trifecta 2000 LX 200MB HD | £399 |
| Trifecta 500 LX Bare | £195 |
| Trifecta 500 LX 80MB HD | £295 |
| Trifecta 500 LX 160MB HD | £359 |
| Trifecta 500 LX 200MB HD | £459 |

a600 memory

1MB RAM with battery backed clock.

| | |
|-------------------|--------|
| A600 Memory | £39.95 |
|-------------------|--------|

1.5MB memory

Fully supports 1MB of chip RAM and compatible with Fastet Agnus. (Requires Kickstart 1.3 and above, not compatible with A500+ Your Amiga needs to be opened, this may effect your warranty)

| | |
|--------------------|-----|
| 1.5MB Memory | £85 |
|--------------------|-----|

1MB thru' port

Fully supports 1MB of chip RAM and fully compatible with Fastet Agnus. (Requires Kickstart 1.3 and above, not compatible with A500+ Your Amiga needs to be opened, this may effect your warranty)

| | |
|----------------------|-----|
| 1MB Thru' port | £49 |
|----------------------|-----|



High quality memory card comes with 1MB of RAM on-board to expand your Amiga A500+ to 2MB of Chip RAM. (Fits in the trap-door, does not affect your warranty)

£36

a500 memory

4 Chip 512K RAM expansion with or without battery backed clock. Free software included. (A500+ compatible)

| | |
|-------------------------------|-----|
| A500 Card with clock | £29 |
| A500 Card without clock | £24 |

a500 8mb board

Expand your Amiga from 2MB to 8MB of RAM. Plug into side slot, full auto config, and full through port

| | |
|----------------------|------|
| A500 2MB Board | £139 |
| A500 4MB Board | £219 |
| A500 8MB Board | £298 |

a2000 8mb board

2MB to 8MB expansion for the A2000. Full auto config., IDE interface and 12 months warranty

| | |
|-----------------------|------|
| A2000 2MB Board | £139 |
| A2000 4MB Board | £189 |
| A2000 8MB Board | £289 |



Increase your Amiga's memory to 2MB of chip RAM, including 2MB 8375 Agnus, easy to fit (internal fit), unlike every other 2MB chip RAM board currently available you A500 trap memory still works fully compatible.

£159

spacial offer

PC1208 68882-20MHz OMB RAM board.

| | |
|--------------------------|---------|
| PC1208 68882 20MHz | £109.95 |
|--------------------------|---------|

powerdrives

All Power Computing's disk drives come with a 12 month guarantee. The PC880B is available with Blitz Amiga, Blitz and X-Copy or Cyclone compatible (this drive is only available to registered owners of X-Copy Professional). The drive comes in a choice of two colours, black and cream.

| | |
|---------------------------------------|--------|
| PC880B with Blitz Amiga | £60 |
| PC880B with Blitz, X-Copy | £75 |
| PC880B with black case (CDTV) | £80 |
| PC880E Economy Cyclone Comp. | £49.95 |
| PC881 Amiga 500 internal drive | £40 |
| PC882 Amiga 2000 internal drive | £40 |
| PC883 Dual disk drive | £125 |



The award winning external disk drive which includes Anti-chk (cures that annoying click), Virus blocker (prevents viruses) and built-in backup hardware. Now available with Cyclone compatible chip.

£60

x-backup pro

Extremely powerful disk back-up utility, uses the latest custom chip design. Hardware designed by Power Computing.

| | |
|--------------------|--------|
| X-Backup Pro | £29.95 |
|--------------------|--------|

A600/A1200 Colour Scanner available soon

power computing ltd

telephone 0234 84130
facsimile 0234 840234
technical 0234 84188
(technical is available from 2.30pm)

epson GT-6500

A high resolution 24-bit colour flatbed scanner from Epson. Scan up to A4 in size on this 600DPI scanner. Comes with PowerScan or ASDG (ASDG is an extra £99). GT-8000 scans up to 800DPI



- Epson GT6500 PowerScan £699
- Epson GT6500 ASDG £798
- Epson GT8000 PowerScan £1199
- Epson GT8000 ASDG £1298
- Document Feeder £399



Completely redesigned internal user interface provides 256 greyscale images (on a VGA machine), scan in 64 greyscales (non AGA Amiga can only display 16), add colour to greyscale images, special effects, new support for 18-bit scanners, add text to scans, available with mono or colour scanner

£119

power scanners

- PowerScanner 4 (mono) £119
- PowerScanner 4 (colour) £239
- PowerScanner 4 inc. OCR £159
- PowerScanner 3 £99
- Scanner 4 Upgrade inc. Interface £50
- Scanner 4 Upgrade software £20
- OCR Junior Software £49
- OCR Full Version Upgrade £49

(OCR full version is only available to registered users of OCR Junior)

autorom sharer

- ROM Share £19.95
- ROM Share Inc. v2.04 £50
- ROM Share Inc. v1.3 £39
- ROM Share A600 £29
- ROM Share A800 v1.3 £55

supra modems

Comes complete with English phone cable, RS 232 serial cable, PSU & communications software.

- Supra Fax Modem £119
- Supra Fax Modem 32BIS £229

pc 1208

Power Computing's latest 32-bit memory expansion for the Amiga 1200 is now available. The PC1208 uses the latest industry standard 32-bit Simm technology which allows you to use 1MB, 2MB, 4MB and 8MB modules. Simply adding either a PC1208 to your Amiga 1200 will increase its processing speed by 219%, comes with real-time battery backed clock and optional FPU available

Bare

- PC1208 £69.95
- PC1208 + 68881 20MHz £96.95
- PC1208 + 68882 20MHz £109.95
- PC1208 + 68882 33MHz £119.95
- PC1208 + 68882 40MHz £139.95
- PC1208 + 68882 50MHz £179.95

With 2MB

- PC1208 + 68881 20MHz £139.95
- PC1208 + 68882 20MHz £159.95
- PC1208 + 68882 33MHz £169.95
- PC1208 + 68882 40MHz £225.95
- PC1208 + 68882 50MHz £265.95

With 4MB

- PC1208 + 68881 20MHz £240.95
- PC1208 + 68882 20MHz £269.95
- PC1208 + 68882 33MHz £285.95
- PC1208 + 68882 40MHz £305.95
- PC1208 + 68882 50MHz £347.95

With 8MB

- PC1208 + 68881 20MHz £419.95
- PC1208 + 68882 20MHz £439.95
- PC1208 + 68882 33MHz £465.95
- PC1208 + 68882 40MHz £489.95
- PC1208 + 68882 50MHz £530.95

PC1204

The original PC1204 4MB 32-bit memory expansion is still available, and is exceptional value

- PC1204 with 4MB RAM £185.95
- PC1208 with 4MB only £129.95
- PC1204 + 68881 20MHz £219.95
- PC1204 + 68882 20MHz £235.95
- PC1204 + 68882 33MHz £259.95
- PC1204 + 68882 40MHz £279.95
- PC1208 + 68882 50MHz £319.95

A4000 peripherals

- 33MHz FPU £60
- 40MHz FPU £79
- 8GBI 2 card (hara) £132
- 1MB for 8GBI 2 (Max-8MB) £40

miscellaneous products

- PowerMouse £15
- Optical Mouse £29.95
- Replacement Optical Mat £10
- 100 Branded Disks + Box £49.95
- 10 Branded Disks £4.99
- A1200 Dustcover £5
- Maverick 1 Joystick £15.99
- Pythos 1 Joystick £9.99
- Apache 1 Joystick £7.99

xl drive

The 1.76MB Disk Drive* can be used with any Amiga. With the 'XL Drive' you can fit a massive 1.76MB on a high density floppy disk. The drive can also act as a standard 880K drive and can also read & write disks written on an Amiga 4000 internal HD drive.

- External XL Drive £85
- Internal XL Drive £75
- A4000 Internal XL Drive £75

*Requires Kickstart 2 or above.

exclusive products

pc880 upgrade

Power Computing can now upgrade your PC880 drive from a 880K to a 1.76MB high density drive, all you need to do is check that you have the serial number 'Sony MFD1'W 22' on your disk drive casing. (You'll need to rewire the wiring. This does not affect the warranty)

PC880 Interface upgrade £49.95



disk expander

This Easy to use and install expander can add 60% to your Hard Drive capacity. It quickly compresses and decompresses data and is very reliable ensuring no data corruption. It works with all drives, SCSI, IDE, floppies, even RAM disk and is expandable or new compression libraries are developed.

- Disk Expander £29.95

order form



Name _____
Address _____
City _____
Postcode _____
Telephone No. _____
Fax No. _____
E-mail address _____
I enclose a cheque/PO for £ _____
Credit card No. _____
Exp. date _____
Signature _____
Make a cheque payable to Power Computing Ltd

AMIGA CONTENTS



28 ANIMATION & GRAPHICS SPECIAL

Now the Amiga has come of age in the animation and special effects industry, we throw the spotlight on the very best up-and-coming and established Amiga animators. We also put *Deluxe Paint IV* and *Brilliance* into a head-to-head battle to see just who is the king of Amiga paint programs. All of that, plus inside info from the man who brought us *Defender of the Crown*, Jim Sachs, who knows more about the Amiga than even Commodore.

OFF THE CUFF EDITORIAL



Don Shugart Editor

Are Commodore about to break up the company and sell off their Amiga technology to the highest bidder? Rumours abound all the moment concerning the financial health of the Big C and whether the

company is still a viable concern. Yet another set of disappointing financial figures have just been released by Commodore and these have done nothing to quell the speculations. Amiga is an exclusive new story. CU Amiga goes behind the scenes to access Commodore's chances of surviving through the coming year to launch their high-end workstation that will, undoubtedly, blow away the competition. We ask to David Pleasance, Commodore UK's joint MD, leading software houses and other commentators to find out their views and opinions. Full story on page 10/11.

We've also got a truly gigantic graphics and animation feature which covers everything from how the Amiga is being used in big movies to how to get a diploma in Amiga animation. There's also a battle of the paint programs, as Digital Creation's *Brilliance* takes on EA's *DPaint* in a head-to-head encounter, and we've also got an exclusive interview with Jim Sachs, one of the premier Amiga artists of all time.

There's lots more battles, but I'll let you discover it all at your leisure. With the bottom of the page rapidly approaching, I want to take time out to say a big thank you to all our loyal readers who have supported us throughout 1993. Our circulation has sky-rocketed during this time, and it's very encouraging to get all your letters of support and encouragement.

So, without swallowing uncontrollably into my henky, I'd like to say a big THANKS, and wish you all a very happy and enjoyable new year. See you to 1994!

108 REVIEW OF THE YEAR

It's got to be done, let's face it! The essential look back on the highs and lows of 1993 as seen through the pages of CU AMIGA will have you reaching for the Kleenex as watery-eyed nostalgia takes over. Do you remember what you were doing when Commodore announced the CD32? Re-live the arrival of the most astounding software and hardware releases, get all cozy as you remember reading that August issue at the bus stop in glorious sunshine, and maybe even spare a thought for what next year might bring...

AD INDEX.....

| | | | | | |
|--------------------|--------------|---------------------|-----------------|--------------------|-----------------|
| Active | 112,113 | Five Star PD | 74 | Overnight | supp 18 |
| Amvision | 23 | GameLink | 42,43 | PC Games | supp 9 |
| Analogic | 167 | Greytronics | 90 | P.D. Soft | 141 |
| British Devices | 23 | Ground Zero | 152 | Phantom Computers | 134,135 |
| Brooks Smith Books | 32 | Hamwood | 24,25,26,27,105 | Planet Data | 178 |
| Cable Electronics | 154 | | 107,110 | Power Computing | 4,5,127,133 |
| Cameleon Computers | supp page 13 | HDS | supp 13 | Pygmysoft | 16,87 |
| Core Design | 39,38 | H Soft | supp 22 | Ranbo | 190 |
| Classifieds | 189,187 | Hobby | supp 84,85 | Season | 104 |
| Cumana | 178 | LC E | 36 | Selection | 158,159 |
| Datagem | 98 | Intel | 47,48,49,50,51 | Sovereign B3 | 101,119,157 |
| CG-8 Computers | 104 | Interplay | 64 | Slice Systems | 173,179,183 |
| Dart | 178 | Jumping Bean | 81 | Siren Software | 63 |
| Defrux | 148,147 | K.B.E. | 89 | Software Demon | 20,21 (supp 60) |
| Digital Creations | 76,77 | KDX | 104 | South Lines PD | 52 |
| Direct Software | 34 | Kosmos Software | 120 | Special Reserve | 88,89,90,97 |
| Discovery | 152 | Ledersack Computers | 176 | Tilgoc | 124,125,100,27 |
| Domark | 14,33 | LOL | 81 | United PD | 148,149 |
| EGU | 27 | Microactive | 178 | US Gold | 30,92,93 |
| Emerald Creative | 41 | Mindscape | 19,58,57 | Virgin | 128 |
| ESP | 79 | Ocean Software | 8,106 | Virus Free PD | 176 |
| Everset | 13 | Omega Projects | 170 | WalkAbout Music | 176 |
| Evesham Media | 136,137 | Onion PD | 154 | W.T.S. Electronics | 95,97 |
| First Choice PD | 142 | Out Associates | 104 | | |

NEXT ISSUE ON SALE 19 JANUARY

EDITOR Don Shugart **DEPUTY EDITOR** Jon Stann **TECHNICAL EDITOR** New Shugart **ASSISTANT TECHNICAL EDITOR** Tony Rogers **NEWS EDITOR** Tony Rogers **PRODUCTION EDITOR** Lee Collier **AD EDITOR** 36 Writers **TECHNICAL ADVISORY** Alan Kennedy and Paul England **EDITOR** Christopher Kenny **GRAPHIC DESIGNER** Wendy Hume **COVER** AD **MANAGER** Neil Taylor **AD MANAGER** Sam Collier **SALES EDITOR** Chris Peters **AD SALES** Richard Ad **PRODUCTION** The Press & Robin Ryan **PRODUCTION** Mike Price **AD SALES** 111,112,113,114,115,116,117,118,119,120,121,122,123,124,125,126,127,128,129,130,131,132,133,134,135,136,137,138,139,140,141,142,143,144,145,146,147,148,149,150,151,152,153,154,155,156,157,158,159,160,161,162,163,164,165,166,167,168,169,170,171,172,173,174,175,176,177,178,179,180,181,182,183,184,185,186,187,188,189,190,191,192,193,194,195,196,197,198,199,200,201,202,203,204,205,206,207,208,209,210,211,212,213,214,215,216,217,218,219,220,221,222,223,224,225,226,227,228,229,230,231,232,233,234,235,236,237,238,239,240,241,242,243,244,245,246,247,248,249,250,251,252,253,254,255,256,257,258,259,260,261,262,263,264,265,266,267,268,269,270,271,272,273,274,275,276,277,278,279,280,281,282,283,284,285,286,287,288,289,290,291,292,293,294,295,296,297,298,299,300,301,302,303,304,305,306,307,308,309,310,311,312,313,314,315,316,317,318,319,320,321,322,323,324,325,326,327,328,329,330,331,332,333,334,335,336,337,338,339,340,341,342,343,344,345,346,347,348,349,350,351,352,353,354,355,356,357,358,359,360,361,362,363,364,365,366,367,368,369,370,371,372,373,374,375,376,377,378,379,380,381,382,383,384,385,386,387,388,389,390,391,392,393,394,395,396,397,398,399,400,401,402,403,404,405,406,407,408,409,410,411,412,413,414,415,416,417,418,419,420,421,422,423,424,425,426,427,428,429,430,431,432,433,434,435,436,437,438,439,440,441,442,443,444,445,446,447,448,449,450,451,452,453,454,455,456,457,458,459,460,461,462,463,464,465,466,467,468,469,470,471,472,473,474,475,476,477,478,479,480,481,482,483,484,485,486,487,488,489,490,491,492,493,494,495,496,497,498,499,500,501,502,503,504,505,506,507,508,509,510,511,512,513,514,515,516,517,518,519,520,521,522,523,524,525,526,527,528,529,530,531,532,533,534,535,536,537,538,539,540,541,542,543,544,545,546,547,548,549,550,551,552,553,554,555,556,557,558,559,560,561,562,563,564,565,566,567,568,569,570,571,572,573,574,575,576,577,578,579,580,581,582,583,584,585,586,587,588,589,590,591,592,593,594,595,596,597,598,599,600,601,602,603,604,605,606,607,608,609,610,611,612,613,614,615,616,617,618,619,620,621,622,623,624,625,626,627,628,629,630,631,632,633,634,635,636,637,638,639,640,641,642,643,644,645,646,647,648,649,650,651,652,653,654,655,656,657,658,659,660,661,662,663,664,665,666,667,668,669,670,671,672,673,674,675,676,677,678,679,680,681,682,683,684,685,686,687,688,689,690,691,692,693,694,695,696,697,698,699,700,701,702,703,704,705,706,707,708,709,710,711,712,713,714,715,716,717,718,719,720,721,722,723,724,725,726,727,728,729,730,731,732,733,734,735,736,737,738,739,740,741,742,743,744,745,746,747,748,749,750,751,752,753,754,755,756,757,758,759,760,761,762,763,764,765,766,767,768,769,770,771,772,773,774,775,776,777,778,779,780,781,782,783,784,785,786,787,788,789,790,791,792,793,794,795,796,797,798,799,800,801,802,803,804,805,806,807,808,809,810,811,812,813,814,815,816,817,818,819,820,821,822,823,824,825,826,827,828,829,830,831,832,833,834,835,836,837,838,839,840,841,842,843,844,845,846,847,848,849,850,851,852,853,854,855,856,857,858,859,860,861,862,863,864,865,866,867,868,869,870,871,872,873,874,875,876,877,878,879,880,881,882,883,884,885,886,887,888,889,890,891,892,893,894,895,896,897,898,899,900,901,902,903,904,905,906,907,908,909,910,911,912,913,914,915,916,917,918,919,920,921,922,923,924,925,926,927,928,929,930,931,932,933,934,935,936,937,938,939,940,941,942,943,944,945,946,947,948,949,950,951,952,953,954,955,956,957,958,959,960,961,962,963,964,965,966,967,968,969,970,971,972,973,974,975,976,977,978,979,980,981,982,983,984,985,986,987,988,989,990,991,992,993,994,995,996,997,998,999,1000

PRINTED IN THE UNITED KINGDOM

ABC

111, 409
JAN-JUNE 1993

GET SERIOUS

PRODUCTIVITY REVIEWS PRODUCTIVITY REVIEW

At last! Romb's long-awaited VIDI 12 and 24 RT is with us, and pretty fast! It is too! Then there's MediaPoint, the package that threatens to topple the mighty Scala, along with Power's PCMCIA-friendly 1208 board, and stacks more besides. Get stuck in!

- 114 INTERNAL XL DRIVE
- 115 2MB PCMCIA RAM CARD
- 116 MEOCHIP 2
- 118 VIDI 12/24 RT
- 121 MEDIAPoint
- 126 NICOLA
- 128 PRIMA PRINTER
- 132 1208 RAM BOARD
- 133 CELL PRO
- 138 FINAL WRITER
- 144 ALTERNATIVE 3D TEXTURES
- 145 OBJECT EDITOR JR.



VIDI 12 and 24 RT finally see the light of day. Grab a piece of the action on page 118.



Multimedia made easy with MediaPoint — has Scala beats its match?

SCREEN SCENE

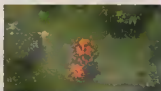
GAME REVIEWS GAME REVIEWS GAME REVIEWS

Full of festive cheer and good will to all men, we've got a chestnut roasting good stocking of games for you this month. Gather round the Christmas pud and feast your mince pies on the joys of such celebrations of life as Cannon Fodder and Alien Breed 2. Then settle down with a chocolate orange and peruse the rest of our selection.

- 70 FIRST IMPRESSIONS
- 73 KINO'S QUEST 6
- 75 THEME PARK
- 78 BENEATH A STEEL SKY
- 82 BRIAN THE LION
- 83 FURY OF THE FURRIES
- 86 CANNON FODDER
- 89 ZOOL 2
- 91 MAGIC BOY
- 91 JET STRIKE
- 94 BODY BLOWS GALACTIC
- 94 ALIEN BREED 2
- 99 VFM
- 102 VAMPYRA



Theme Park: the King of amusements is EuroDisney. Could you do it better than Mickey and Donald?



Threaten out your vampire, here comes Cannon Fodder: the sickest game since the infamous Camel and Pea simulator

REGULARS

- 8 NEWS What a mess of activity the Amiga market is this month, with enough products and parties to fill Santa's sleigh five times over
- 10 COVERDISKS See panel on this page
- 59 CD32 Things are finally starting to take off. In Commodore's amazing new Amiga CD32 issue. We've got the first news and pictures of the FMY card and reviews of Liberation, Zenith and Lunatic
- 114 PRODUCTIVITY REVIEWS See panel on opposite page

- 150 PG SCENE Probe the best PC hardware news of 1992. FYI: Paper is the closest you can get to Virtual Racing on your Amiga! Plus, a whole load of mind-warping demos, slideshows and music files are on show this month
- 153 PG UTILITIES For the cheats and cash-strapped among us, this month's guide to disk-friendly software includes diskart, archivers, another left's panel package and a round up of disk magazines
- 155 ART GALLERY More readers' art on your Amiga

COVERDISKS

Ever wanted to create your own games? Well now's your chance as we're giving away the games creation package, *Shoot 'Em Up Construction Kit*. What's more we've also got a Fun's creation program and an amazing, exclusive *Mortal Kombat* playable demo.

DISK 72

PAGE 16

Ever wanted to write your own shoot 'em up? Well now you can, with the superb *Shoot 'Em Up Construction Kit*. Even a complete newcomer to computers can get a last-paced bout of alien-zapping in a matter of minutes. No messing about with programming, no confusing lecture bits, just a simple joystick or mouse-controlled set of menus is all you need to get your head around. Why not take it easy to begin with, and enjoy the three complete games that come ready-made on the disk? Design your own devious levels, concoct warped alien species and then throw in a couple of turbo-charged players armed to the gills with the latest in thermo-nuclear weaponry. The results? One brilliantly addictive shoot 'em up! Get blasting!



DISK 73

PAGE 22

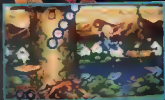
Yes, it really is *Mortal Kombat*. We've gone and got you lucky lot a totally mortal one- or two-player demo! Are we good to you or what? Had enough of your console-crazy males bragging about all their beat 'em ups? Well get this in your drive pronto, and see just what your Amiga can do — forget Street Fighter II Turbo Plus Extra With Belts On Edition, *Mortal Kombat* is the only option if you want it hard and fast. You want speed? You got it. You want loads of moves? You got 'em. You want buckets of blood? Yep, there's plenty of that too. But what about the death moves, you're thinking, '... well they haven't put those in...'. Well think again! Yes, it's all here in our exclusive playable demo of the biggest game of 1993, blood, guts, gore, speed, and everything that made the con-op the smash it is. What are you waiting for? Finish him!



Dennis™

TAKE YOUR
BEST SHOT

For over 40 YEARS
he's been making us
laugh... driving Mr.
Wilson crazy! Now
you can play the
sling shot hero and
join in on all his side
splitting pranks.
Dennis is his name
and mischief is his
game! So c'mon...



IT'S TIME TO MESS
THINGS UP A LITTLE!!!

ocean

IBM AMIGA
AMIGA A1200

OCEAN SOFTWARE LIMITED
2 CASTLE STREET, LITTLEFIELD
MANCHESTER - M15 6JL
TELEPHONE: 061 854 1234
FAX: 061 834 0650

©1992 Ocean Software Limited
Dennis is a registered trademark of
Houghton Mifflin, Inc.

CU

NEWS

LEMONADE SHANDAR

Down the name Shandar the Wizard still memories of wandering around dark underground catacombs and ruzzling across wasteland islands chased by bave and huge lizard warriors? If so, you'll be a 95in die pleasured to hear that he die't actually die at the end of labor 3, but merely ferret into gas, which has now taken over the mind of the 2000 year old dragon Withras. Guess who has to stop back to to save the day?

If none of this is making any sense, then you obviously aren't swilling the nalgus of labor 3 as enthusiastically as you should. Illuminia have gone overboard in upgrading and reworking their game system, and it now includes such gems as lardy different spells, a time travel scenario and even film sequences to break up the tedious labor 3 will be released in April, apparently. Contact Ozon on 071 328 2782.

FREE AMITEK HAWK RAM UPGRADE

Silica Systems are offering a free upgrade to the Amitek Hawk RAM board. The original Hawk board disables access to and from the PCMCIA port (used for RAM cards and the Overdrive hard drive), but a replacement chip is now available to rectify the problem. Call Silica Systems on 081 200 1111 for further details.



TV PAINT 2 PRICE DROP

The 24 bit paint package TV Paint 2.0 has just been reduced in price to a more affordable £249. TV Paint 2.0 is compatible with the Avision, Demos, COMA2410, various EGS, Harlequin, Planctus Pinc, GVP 1024, Retina, various Sage, VD2001 and Picaso graphics boards. Contact Artiga Centre Scotland on 089 687 534.

SO WHERE'S YOUR CD32 NEWS, THEN?!

First of all, we've got so much of it, we've crammed it all into its own special section. So, if you want the latest news on Commodore's new super console, including details of the CINE add-on unit, turn to page 57 now!

BIT.MOVIE 94

If you get your skates on, there's still time to enter the 1994 Bit.Movie computer art contest. The festival will take place in Vienna, Italy, from March 31st to April 4th, 1994. There are three categories for the contest: real time animation, still images and computer-generated video animation. The real time animation category is dedicated to sequences that can directly from the host computer (real time image rendering is not necessary), such as pre-rendered movies playing from RAM or a hard drive. Entries must be in by January 31st 1994, and must be supplied together with the Bit.Movie application form. The contest is open to users of any computer system, but even skilled expatriate professional installations and 24-bit mega-machines, like Amiga and Power up its share of winners, including Eric Schwartz and Craig Collins. Entry forms are available from Bit.Movie '94, c/o Carlo Mazzoni, Via Belgioio 13, 47026 Riccione, ITALY. Fax: 059 38 641 601962.



FAX OF LIFE

On the way from Village Tronic is a new software fax system for your Amiga. If you've got a FaxClassic capable modem, you'll be able to turn your computer into a fully-functional fax terminal with TrapFax. TrapFax has been developed by Maximilian Harlech and his "Trapdoor Development Team" programmers of the popular PatchNet Fax/Fax Mailer. The modular system allows the Amiga to receive incoming faxes, to route the print output of any application to the fax, and you can even transmit several fax files to one multi-page fax. It's fully localised under Windows 3.1 and also makes use of a few of Windows 3.1's new features. Village Tronic can be reached on 049 50 761 30 (Germany).



VILLAGE TRONIC

Is Commodore and the Amiga living on borrowed time or is this the dawning of a new age? Jason Holborn clarifies the future of the Amiga...

If you've been monitoring the fortunes of both Commodore and the Amiga over the past year or so, you couldn't help but notice the rather bleak picture that is being painted by both the press and software houses over recent months. Commodore, of course, insist that the Amiga is still riding high in the popularity stakes and will continue to do so for some time to come, especially with the recent release of the CD32, but is this just plain marketing hype or a concerted effort to restore confidence in an ailing market?

Recent news stories in both the Amiga and trade press have done nothing to dispel the worries that many Amiga users are now feeling. With Commodore feeling the pinch of heavy financial losses and the loss in confidence caused by bungled changes in the Amiga range (the A500 Plus and A600), not to mention the news of widespread redundancies within Commodore's US based research and development wing, it's not surprising that many would-be Amiga owners have been tempted to move over to lesser systems. Is the Amiga destined for the great computer scrap heap in the sky or is this just a minor hiccup in Commodore's greater scheme of things?

THAT DEJA-VU FEELING...

At the top of most people's list of worries has to be the fortunes of Commodore itself, a company that is

certainly no stranger to financial woes. When the Amiga was first launched way back in 1985, Commodore were in the grips of a financial crisis that many believed would be its undoing. As history shows, however, Commodore weathered that crisis and many industry speculators believe that Commodore can do it again with this latest one.

Much has been said about Commodore's latest set of financial figures which continued to show substantial losses. According to the report, Commodore made a loss of \$82.6 million for the last quarter ending June 30th 1993 (compared to a profit of \$27.6 million for the same period of 1992). For the last quarter of the 1994 financial year ending September 30th 1993, turnover was down on the previous year from \$1.56.5 million to \$82.6 million with Commodore making a loss of \$9.7 million.

In a recent news story published within the computer trade journal, *Computer Trade Weekly*, these figures were greeted with considerable pessimism with *CTW* quoting a statement included with the results that painted an even bleaker picture. According to *CTW*, Commodore themselves believe that 'The company's financial position and operating results raise substantial doubts about the company's ability to continue as a going concern. Scary stuff, maybe, but David Plessance, MD of Commodore UK, was quick to answer *CTW*'s claims and to reassure Amiga owners just how healthy Commodore now are.

'We're not at all' chuffed with the *CTW* article. It leaves out a very important part of the report. The June quarter figures were in line with what we had forecast. We made provisions in our accounts for substantial write-downs of our A600 inventory and indeed Commodore internationally. What we anticipate is that we shall have a very strong effect in September and we can reduce our losses quite substantially.'

'We hope to be in a "break even" position or even profitable by December. Sure the figures show that we made a loss, but they fail to highlight that it was a very

small loss and we have succeeded in reducing our liabilities considerably. The notes that *CTW* published were a result of the June quarter figures - those notes were put on by auditors but the September figures showed a marked improvement.

'I we don't break even this quarter world wide, we're going to be damned close - in fact, I'd be very surprised if we don't make a profit in the next quarter. We're not a billion dollar corporation anymore, but we're going to make a profit. If our supporters had any doubts, don't you think that they would have pulled the plug a long time ago? At the end of the day, we're indebted to the brand loyalty of our users. They have saved us.'

ALL'S TICKETEE BOO AT CBM

Commodore's National Marketing Manager Dawn Levack backed up David's comments: 'As far as we're concerned, everything is "ticketee boo" here at Commodore. Our September results are much better and we'll be back on track by December. We're on target - we've got rid of our liabilities and we're heading for good times.'

From a marketing point of view Dawn was actually antithetical. 'Our recent marketing campaign has been excellent. We're getting all the right results. Just look at the recent Gallup polls - we're the number one platform on CD and the CD32 title. *Zzap!* is the number one CD software title. If you look at *Marketing magazine* (another trade journal) the effectiveness of our TV advertisements are up there with the *Amiga* adverts.'

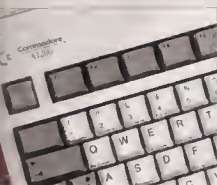
Many would claim that Commodore are simply trying to gloss over the bad news, but Andy Leaning, a spokesman for major dealers Silca Systems, backed up Commodore's views. 'The *CTW* story was very misleading and the quote concerning Commodore's ability to continue as a going concern has been blown totally out of proportion. The footnote that *CTW* refers to is actually a standard auditing footnote that makes no judgements concerning Commodore's financial health.'

'As far as we're concerned, Commodore's latest set of financial figures are very encouraging and they bode very well for the future. When a company gets into a position where it is writing off millions of pounds, it's very difficult to recover unless you take drastic action very quickly in our



Would you buy a CD32 from this man? Of course you would. Left: David Plessance and Colin Proudfoot, Joint Managing Directors of Commodore UK.

IS THIS THE END



opinion, Commodore seem to have done just that, although they are negative, the drop in losses is encouraging.

SALES AND CLONES

Sales of the Amiga are certainly not doing high as Dawn Levack confirmed. "Sales of the Amiga are flying - we just can't get enough of them! As for the CD32 sales are increasing by 30% each week!

David Pleasance confirmed this optimism. "In the A1200, we have the industry's leading product base none. In the last six months we've sold over 160,000 in the UK alone!" In a recent press release Pleasance described these sales as an "incredible summer" which is unheard of in this industry.

The CD32 has been doing a lot better than many industry pundits had claimed with Commodore well on its way to selling over 400,000 units worldwide by the end of 1993. In the UK alone, Pleasance firmly believes that Commodore will have achieved sales of around 110,000 units by January 1994 although he admits that sales are not quite as high as Commodore had hoped. "We admit that sales of the CD32 have been slower than anticipated. I think that this is a result of the market being 'flat' at the moment - we're still outsteering the Sega MegaCD by as much as four to one though! We're outsteering the competition and we believe that the market is yet to take off."

The incredible popularity of the A1200 is proving to be a problem that is holding back manufacture of the CD32. "We've been inhibited by our inability to manufacture enough machines. Sales of the

A1200 have held back the CD32 because we've had to make so many more A1200s. We're certainly not complaining though!"

Rumours have been rife within the industry that Commodore have plans to license the Amiga's custom chips to a number of Japanese electronics giants for the production of Amiga "clones". Whilst some industry watchers believe that this could be a good thing (indeed, it was the assistance of clones that saved IBM's ailing PC from the scrapyard), when questioned whether the licensing of Amiga technology was a possibility, Pleasance was quick to reply. "There is a possibility the chip set we have abandoned (ECS) will be available for license. Now that we have totally abandoned anything less than 32-bit technology those chips are now available."

The growing interest in taking cable or satellite television signals via a black box is certainly a possibility - after all, the Amiga chip set is perfect for handling video signals. As for talk of Amiga clones, that's complete and utter nonsense - that would be the kiss of death for Commodore.

Domack Ian Stewart at Gremlin and US Gold's Geoff Brown, continued enough had news to test the loyalty of even the most hardnosed Amiga fanatic. To quote this esteemed publication, "The Amiga seems to be next on the industry's self-imposed hit list. In certain quarters there is almost a race to abandon the format. We do, in fact, seem to be in the middle of a definite and irreversible decline. As for as the games market is concerned, the Amiga's short-term future is bleak and there simply is no long term future."

This survey was certainly not greeted with enthusiasm by either Commodore or by those that had taken part.

According to David Pleasance, every single person surveyed expressed dismay at the findings of the survey and they all strongly believed that the final analysis was very misleading.

Commodore have been quick to patch up any damage that the survey may have caused by posting an advertisement in *Computer Trade Weekly* that lists the views of eighteen of the games industry's top players. These quotes certainly make interesting reading and although we don't have space to print them, every single one expresses a continuing commitment to the Amiga games market. This view was echoed by Mervyn Brown, head honcho at Team 17.

SURVEY CLOBBERED

Commodore's performance isn't the only area of concern, however. A recent trade only survey entitled *The Video Games Industry in 1994* produced by a rival magazine publisher certainly did the Amiga no favours. The survey, which was conducted amongst the top twenty people in the software industry including such big names as Mark Strachan at



Software. We certainly plan to continue to support the Amiga with quite a few new releases planned for next year, especially on the CD32 and A1200, including *Alien Breed 3D* which makes use of the CD32's Planar chip. Our A1200 stuff is selling very well indeed - in terms of percentage of machines the A1200 version of *Alien Breed* is actually sold better than the A500 version! We're totally committed to the Amiga - the Amiga is still our main development platform."

GOOD TIMES AHEAD

Both Commodore and the Amiga have suffered their greatest test over the past few months but it seems that finally there is light at the end of the tunnel. With Commodore now fully expecting to be profitable by 1994 and Amiga software vendors still completely behind the machine, it seems that finally the Amiga's future is assured. With both the A1200 and the CD32 selling very well, not to mention the promise of even more powerful Amiges based around the 'Triple A' chip set and RISC technology just around the corner, the Amiga will undoubtedly continue to be a market leader.

Certain sections of the Amiga press have been very quick to write off Commodore, but perhaps its time for the entire industry to stop kicking Commodore and start applauding them instead. Fighting back from the grips of a crisis that would have spelled the end for many lesser companies is a formidable achievement that only goes to prove just how clued up Commodore's management really are. Sitting on the board of Commodore UK are some of the industry's most talented businessmen and women who clearly know what the Amiga is capable of and how to sell it.

Combine this with the sort of brand loyalty and state of the art hardware that other computer manufacturers can only dream about and it's easy to see why both Commodore and the Amiga have managed to weather this latest storm.

All things told, Commodore is possibly leaner and meaner than it has ever been! **CD**

OF THE AMIGA?

COMMODORE WRITES»

With a glass of sherry in one hand and a mince pie in the other, David Pleasance reflects on what has been a memorable year for both the Amiga and Commodore.

Here we are at the end of another year, and what a year it's been. It was only April '93 when I was in Athens for a dealer conference organised by our Greek distributor, when suddenly, out of the blue, I found myself right in the thick of it, appointed as Joint Managing Director for Commodore's UK subsidiary. That was just the first of many challenges that were about to reveal themselves over the next few weeks.

In May the corporation announced further large losses, adding to an already extremely dismal set of figures for the first half year.

The major difference this time, though, was the provision of very large reserves to enable Commodore to re-focus and re-structure. Re-focusing consisted of firstly deciding once and for all to get out of the PC market completely and secondly to concentrate only on our Amiga technology, and, in particular, on nothing less than 32-bit systems. Re-structuring consisted of diverting the resources previously used to support PC products and reducing the overheads of the Worldwide operation to reflect the lower sales figures. This would naturally result from the withdrawal of the PC-based products previously included in our turnover.

Knowing that the decision to adopt this strategy was taken in late May, we always realised that little or no effect would be evident in our June quarter results. So the plan was to concentrate on our September quarter with a view to reducing the losses and overheads, hopefully resulting in the company being profitable by Christmas.

I am happy to tell you that we appear to be on course with our September loss being much less than previous quarters, and more importantly we succeeded in reducing our overheads by 65%.

We are very pleased at the super success we are enjoying with the Amiga CD32. In all my years at Commodore, I have never experienced anything as exciting as the way everyone is reacting to this brilliant product. However, if ever there was a Christmas star, ours has to be the Amiga 1200 Desktop Dynamic pack. I tell this was the best pack my marketing team had ever come up with, but I did not expect such an overwhelming demand for it. A sincere thank you to all of you who have kept supporting us and especially to those of you who have bought any of our products over the last few months.

Now that we have secured our future I am very excited at what prospects 1994 might hold for Commodore.

~ You have read, I'm sure, about the AAA chipset currently under development

These, combined with a RISC-based core, will form the

of our new high end graphics workstations. These will be able to run MS DOS software under Windows NT as well as having the best graphics of any sub-\$50,000 system!

So, with this new model flag ship product, and with the CD32 gaining momentum rapidly, 1994 looks set to be a really memorable

year for
Commodore
Here's to another
exciting twelve
months. 



QUARTERBACK V6.0

Backed up your hard drive has been a lot easier since Quarterback came along. Now it's reached version 3.0, and includes "features that advanced users have been asking for" according to Central Coast Software. Among the improvements are support for high capacity tape drives, faster compression and the ability to back-up a large hard disk across multiple tapes.

Also to be included with the main program is Schedule Pro, which allows the running of any AutoCAD program or AREXX script at a preset time. It can also display reminders on screen at given times. Contact Central Coast Software (UK) on 0101 512 328 5650.

AMIGA NEXT STEPS

For those who have mastered the basics of the 1200, and now want to go further with the machine, *Airstep Next Steps* could be the book for you. The book includes subjects such as adding a hard drive, creating a fully recoverable RAM disk, using MultiView and recovering deleted files. As well as getting down to the gritty bits of Waribandi, the book also delves into the world of third party software. Contact publishers Bruce Smith Books on 0623 816633.



GVP'S 16-BIT AUDIO-VISUAL DIGITISER

Potentially the most powerful add-on for the i290 yet, GVP's exciting new AI 290 II board is due out any day now. First of all, the specs for the board itself: 50MHz 68020 processor with integral memory management unit, two SIMM sockets holding up to 64Mb of RAM in various SIMM configurations, a battery-backed clock, and an optional 68082 math co-processor.

Now it's the deal part. The board will be able to accept four peripherals via a through-port connector. GUP already has a real-time 16-bit video input to develop more, previously called The Cobra. For mouse and video links, Flyper is the name of the 16-bit direct-to-disk sampler that also is in the pipeline. Then there's the A1201 SCSI II interface, which will allow the A1201 to connect to just about any SCSI device, including CD-ROM drives, scanners, Synpad drives, tape streamers and more. Created access speeds of the A1201 are 3.2MBps per second when connected to a Master 5435 drive. Further add-ons are promised in the next future.

We'll have a review of the A1230 II in the next issue. For more information contact: Silica Systems on 800 308 1111.

NEW RAM FROM DKB

American hardware developers DKB have just struck a UK distribution deal with Silca Systems, resulting in the imminent release of three new RAM boards. For the 1200 there is yet another 'trappdoor' expansion board, the DKB 1200 RAM Board. The basic board comes with a 16MHz 68001 maths co-processor and two unpopulated SIMM slots, at a price of £129. Silca claim this is the first 1200 RAM board to use two industry standard SIMMs rather than the higher-priced SIMMs used by other boards.

For the A3000 and 4000, DKB have a 32-bit Zorro III RAM board. The four SIMM slots can accommodate up to 128Mb of RAM, and can also use different capacity SIMMs simultaneously (such as 4Mb and a 32Mb SIMM for example). The unpopulated board comes in at £289. Finally there's the DKB Megachip 1Mb Chrp RAM upgrade for the A500, 1500 and 2000, which is available for £154. Contact Silica Systems on 061 309 1113.

CANNON FODDER

CANNON FODDER

WAR HAS NEVER BEEN SO MUCH FUN

Virgin

EXCLUSIVE PRESENTATION OF THE VIRGIN FILMS, BOSS LANDMARK GROUP, LONDON. THE FILM
CANNON FODDER IS A REGISTERED TRADEMARK OF THE VIRGIN FILMS GROUP. ALL RIGHTS RESERVED.

Sensible

THE CD-ROM WAS CREATED FOR ONE REASON...

Microcosm features the most incredible movie sequences - combining some of the world's most advanced graphics with stunning live action footage.

Breaking new ground, Microcosm is the first game ever to use fractal engine technology, which allows the player full interaction with all the superb graphics created by the system. Play Microcosm and you'll be witnessing some of the most stunning computer graphics and awesome gameplay seen on any system EVER!



PRESS TALK

'A new era in gaming and the way ahead for CD.'

'This is THE way forward.'

'This could be the start of something new and very big.'

MEGA DRIVE

'The future today...'

'Quite unbelievable.'

THE ONE

Screenstar Award
CU AMIGA CD32

91% MEGADRIIVE ADVANCED GAMING
plus cover mount

90% MEGA POWER

MICROCOSM

NO ONE IS IMMUNE.

THE ONE





COVERDISK 72

SHOOT 'EM UP CONSTRUCTION KIT

YOUR QUICKSTART GUIDE TO LOADING DISK 72

WRITE PROTECT YOUR DISK!
Before you can use any of the programs on disk 72, they need to be decompressed onto a new disk. You'll need three disks to hand, but they needn't be formatted.

1. Insert disk 72 into OPD and turn on the Amiga.



2. Double click the disk 72 icon, and then double click the 'unpack' icon.

3. When prompted, insert a blank disk (which needs to be write-enabled), and press Return.

4. Replace disk 72 when it asks. To decompress the other two disks, repeat the process from step 2, clicking the remaining icons instead.

5. The Shoot 'Em Up Construction Kit (SEUCK) can then be loaded from the two new disks. Four Gribbler must be run through Workbench.

SAVING YOUR GAME

Get into the habit of saving your game every so often, and make sure you've got a formatted disk to hand before you begin. Use the Storage system when you want to load or save. You can save out your data as separate parts (sprites, backgrounds, levels only, for example), or save out the whole thing. Save Everything is most useful, as it saves the complete game.



Above: Psychokid is just one of the free games created with SEUCK.

Right: The sprite designer is where all your sprites are designed.



Using IFF sound samples, you can easily bring your shoot 'em up to life. There are some included on the disk, or you can use your own. Hey, why not use a hardware breakout for an explosion?

The Shoot 'Em Up Construction Kit gives you the chance to design and create your very own shoot 'em up. Everything is controlled by the mouse and joystick, and there's no need for any program ming knowledge whatsoever. Even an absolute newcomer to computers could knock up a decent game in a couple of hours. Whether you want to

write the next Cannon Fodder, or create your own original blaster, it's all at your fingertips with SEUCK.

DO IT YOURSELF

How about having a go at creating a game from scratch? Your games can be set on still screens, fixed-rate or player-controlled vertically scrolling backdrops. For this example we'll use a fixed-rate backdrop, as demonstrated with the Stop and Tackle game on the disk. If you've previously loaded one of the games, it's best to re-load the whole SEUCK program to get a clear system.

SPRITES

Sprites are the graphics used for your spaceships, aliens, bullets, men and explosions - everything in the game that isn't part of the backdrop. The Sprite Editor is a good place to start, so select Edit Sprites from the main menu, followed by Edit Sprite. You'll now be in the Sprite Editor.

The grid on the left is an expanded view of the current sprite. You can draw in the grid by holding down the left mouse button, and change the pen colour by choosing a different shade from the bar in the middle of the screen. To change the palette, select Edit Colours from the Edit Sprite menu. Make the first sprite a spaceship, or whatever you want your player's character to look like. Be careful of the Flood button, as it can wipe out a sprite in a single blow. This is reversible with the Undo button.

If you want your sprite animated, click the Destination button once so that it shows 1. Click the Copy button to duplicate the current sprite (number 0) into sprite number 1. You can then move to sprite 1 with the Sprite No. button, and alter the duplicate slightly to make a second frame of animation.

OBJECTS

Before a sprite can be used in the game, it has to be assigned to an object. The difference between sprites and objects is that sprites are the images used for the aliens and



Above: Sprites can even be used to display bonus points and other info.

Left: Animating your sprites is really done simply: place the frames in your chosen order, and enter the number of frames.

characters, but objects are the aliens and creatures themselves.

From the main menu, select Edit Object twice. You'll see a bank of identical sprites. The name of the current object is displayed at the top of the screen, and will probably be showing player 1. At this stage sprite 1 will be set up for player 1, so you shouldn't need to change anything here. If you were defining another object (enemy 1 for example), then you would need to select the appropriate sprite, then click on the top left spot on the sprite grid. If you've drawn a few frames of animation, you'll need to select each one, and place them on subsequent spaces in the sprite grid (going from left to right, starting with the top row). By changing the Last Frame value, you can define the number of frames that are used in the animation. Delay Value sets the speed of the animation. You can see how your animated sprite will look in the Amnesia window.

Once you've got your head around this, you can repeat the sprite and object generation process for your aliens, bullets and explosions. The basic objects you'll need to define are player 1, player 1 death (explosion), player 1 fire, enemy 1, enemy 1 fire and enemy 1 death. You can use the same death/explosion sprites for the enemy and player, and also use the same bullets to save time.

PLAYER LIMITATIONS

Before you can see your player sprite in the game, you'll need to activate it and set up a few parameters. Choose Edit Player Limitations followed by player 1 and Edit parameters. Use these settings for now: player: enabled (yes), lives (5); ship speed (3); score colour (fr); amount of bullets (3); directional fire (no); bullet deviation (14); bullet speed (15); fire rate (3); extra life (yes). You can work out exactly the

ADVANCED FEATURES

After you've got your basic game up and running, try out some of these tricks to add a bit of spice to the proceedings:

LEVEL BOSSES

So about now you're complete without some sort of final guardian, and there's no reason why your SEUCK game should be any different. Even though the basic sprite used by SEUCK are quite small, you can join a number of them together to make one big enemy. Use the Join Enemies option from the Edit About Windows menu. From here you can select your enemy, and then click the Place button to get to the level map. Scroll to the required position, and then click the raster at the enemy you want to join up with. Now you can adjust the offset, which determines how close or far apart the two sprites will sit. This is handy when you've designed a number of small planes to be fitted together as one, where you need to limit any jolts in the sprites. Repeat the process to add more to the creation.

TWO PLAYER GAMES

Simultaneous two player games are easily created. Player 2 can be set up with its own sprites, player, fire rate and other parameters, given round effects and enabled. In fact, everything you set up for player 1 has to be set up for player 2.

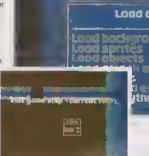
LEVEL PARAMETERS

Levels can be set up in three types: scrolling, push-scrolling or still. Push-scrolling levels mean when the player pushes against the top of the screen, the level will scroll. The game can be set up to scroll in the Edit Level in the Edit Level Parameters option. From here you can also select the speed of the scrolling (higher numbers mean slower scrolling), the direction of the level (it won't scroll if it's set to scroll in the wrong direction), and whether new levels scroll up directly from the previous one, or start from a clear screen. You can, of course, have more than one level. Switching the current level control allows you to create new levels, and edit previous ones.

STANDALONE GAMES

So you've finished your game, and you want to turn it into a self-loading disk. Here's how it's done:

1. Load Workbench or load from your hard drive.
2. Open a Shell or CLI window, and type resident in monitor (RETURN), resident copy (RETURN), resident screen (RETURN), resident edit (RETURN), resident edit (RETURN), resident edit (RETURN).
3. Format a disk to dff, and in the CLI/Shell window, type monitor dff auto (RETURN).
4. Insert the second SEUCK disk into DPU, and type copy dff, "seuck game" run (RETURN).
5. What's the drive light to go out, then swap the SEUCK disk for the data disk that contains your SEUCK game. Pressing over game is in the main directory in the disk, type copy dff mygame all ran (RETURN) (where mygame.all is the filename of your game).
6. When the light has gone out, insert the newly formatted disk into DPU. Type copy mygame all dff:seuck (RETURN), copy mygame all dff:seuck (RETURN), type name dff "seuck game" mygame game (RETURN) (replacing mygame with the game's filename with no file extension).
7. Type install dff (RETURN), monitor dff (RETURN), or dff a startup sequence (RETURN).
8. From within dff, you now need to make a startup sequence. All you need to do now is which should run "mygame game" (replacing the game's filename with no file extension) in the filename of your game without file.all extension.
9. Use the mygame to save the program in startup sequence and save it as IFX (this will be the main disk directory, and call the file with a name between the two words).
10. If you want to change the loading screen, save and your design as an IFX (this will be the main disk directory, and call the file with a name between the two words).



Above: Backgrounds are made up of lots of little blocks. A fewings go to make massive scrolling levels from just a few basic designs.

Left: Creating the levels is just a matter of putting down the pre-drawn blocks.

best settings a little later. Exit this screen, and select Edit Play Area. Use a combination of the fire button and joystick to mark out the invisible boundaries for the player sprite. Exit back to the menu with the right mouse button. Select Edit Starting Position, and move the crosshair into the middle of the screen from the top left corner.

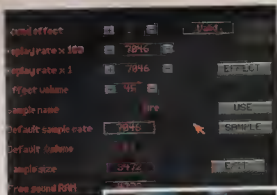
Now re an appropriate time to check that everything is working as it should. Go back to the main menu and select Test Game, and choose either Cheat or Proper test. With any luck, you should see your player 1 sprite on the screen, and should be able to move it around with the joystick. If not go back and check over what you've done so far.

BACKGROUNDS

Next we need to create a background. SEUCK makes its backgrounds from a bank of blocks.

These blocks are pasted together to form the expansive scrolling backdrops to the game. Select Edit Background followed by Select Block. The block screen you see is actually a patchwork of blank background blocks. Move the square into the top-left corner of the screen and press the right mouse button (this will select the first block in the bank). Choose Edit Block, and draw an 8-way pattern such as stars, or a stippled desert/grass type of texture. Go back and test the game, and you'll find the background is now made up the block you've just drawn, repeated over and over to fill the screen.

Move back to the Edit Background menu, click on Edit Block, click the Block No buttons to move on to block 1, and draw out another block, this time with a tree, planet or some other feature. Exit from the Block Editor, and select Edit Map. You can scroll through the



Above: Various sound effects can be created from one sample by changing the playback rate.

background map by clicking the left mouse button on the up and down arrows found in the little box that follows the mouse pointer. In this section the map scrolls in steps of one block, so the background will appear not to move until you put down your second block somewhere in the map. To select a different block, use the pins and minus signs also found in the box. Clicking on the top portion of the box will stamp down the currently selected block.

Scroll through the map and stamp down some copies of your free-plane block that you've just created. You should now be able to see the background moving when you scroll up and down. Exit back to the menu and load the game again.

FREE GAMES

To help you get an idea of what's possible with SEUCK, there are three games already included on the standard disk. Before you start messing around with it yourself, why not load them up and have a quick test? Your second SEUCK disk should be in DFE, already. If it isn't, put it in now.

Using either the mouse or a joystick, select the Storage option from the main menu, followed by Load Data followed by Load Everything. A list of three files will appear after a few seconds. Click the mouse on the one you want to load. Once you're back at the menu, attend Fast Index, then select Test Game from the main menu. There are two options you can choose here: Cheat Test and Speed Test. Choose Cheat Test just gives you your allotted amount. To exit back to the menu, hold down both mouse buttons. By the way, if you happen to be playing a two-player game in Cheat mode, you need to replace JoyStick 2 with the mouse when you want to get back to the menu. Feel free to mess around with the menus and switch back to the game to see which options change when parts of the game.

attack waves, you can go on adding as many as memory will allow.

LET THERE BE NOISE

SEUCK uses IFF samples for all its sound effects. Collect a few IFF samples together, and put them on disk in a directory called sounds for this example. If you don't have any IFF samples, you can get hold of some from any PC library.

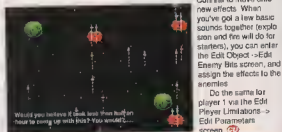
Select Edit IFF Sound, then the Now IFF Sound directory. Type in sounds' and press Return. Click on Load IFF Sounds, and the contents of the sound directory will be listed. Click on the samples you want to use, and they'll be loaded so long as you've got enough free memory. Next you need to select Edit IFF

Sound Effects. You can use the same sample for different sound effects. For example, you could use a zap sound played very quickly for a laser effect, and the same zap sample played very slowly for an explosion.

The first thing to do when setting up a sound effect is click in the Sample Name box. The left mouse button cycles through the available samples. Next click on Use, and then alter the playback rate and volume level. A volume of zero is silent, while 64 is the loudest setting. Use Replay Rate x1000 for coarse tuning, and Replay Rate x1 for fine tuning. The Sample button replays the current sample at its default rate, but the Effect button replays it at your chosen rate. Use the Sound Effect

Control to move onto new effects. When you've got a few basic sounds together (explosion and fire will do for starters), you can enter the Edit Object -> Edit Enemy Bits screen, and assign the effects to the enemies.

Do the same for player 1 via the Edit Player Limitations -> Edit Parameters screen. **ED**



Above: If you've mastered the sprite editor, the block editor is a piece of cake!

ENEMIES

So far, we've got a scrolling background and an armed player sprite. What we need now is an enemy. You should have already set up an enemy with a sprite in the object editor, but you'll still need to define its various parameters such as speed, fire rate and so on. From the Edit Object option, choose Edit Enemy Bits. Set the parameters to any numbers you fancy, making sure that none of them are left at zero (otherwise you could find that your alien refuses to move or shoot for no apparent reason). You can come back and alter these once you've seen how they work. Set all four of the collision detection options to yes. Exit back to the main menu when you've finished.

Choose Edit Attack Waves from the main menu, then Insert Enemy. This takes you to a screen where you're asked to select your enemy. With Enemy 1 selected, click on the Place button.

You'll be presented with a map of the level, which you can scroll through with the joystick. Find the spot on the level where you want this particular enemy to appear. Press Fire, and then scroll a little on the finer setting if you need it.

Now you can position the sprite to define its predesigned start point, then draw out its flightpath with the joystick. Press the right mouse button when you've finished, and move the joystick to the left to confirm, or right to cancel.

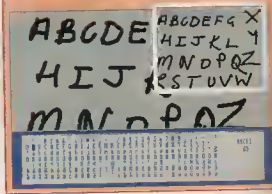
Test the game once more to see how your aliens have come out. Once you've got the hang of the

FONT GRABBER - COMPLETE COMMERCIAL PROGRAM

Font Grabber is a tool for creating your own bitmapped Amiga fonts. You can design your fonts with your favourite graphics package, then convert them into fonts with Font Grabber.

Before you load Font Grabber, you should draw out an alphabet on a single screen with DPaint or some other graphics package. Save the screen onto disk. Load Workbench, then insert your de-compressed Font Grabber disk. Double click the Font Grabber disk icon, and then double click the Font Grabber program icon. From the Files menu, select Load IFF, insert the disk that contains your font, and load the image.

Choose Select Character from the font menu. Highlight the letter A, and click the left mouse button. Move the mouse pointer to the top left corner of your A on the IFF screen, hold down the left button and move the mouse to the bottom right corner of the letter, so that the box encloses the letter. Release the mouse button, and select Next Character from the font menu. Repeat the process of boxing off each letter, then selecting Next Character from the menu, until you've done the whole alphabet. You can then save out the font with the Save Font option from the file menu. The font can then be loaded into Deluxe Paint and a number of other graphics, DTP and video applications.



WHAT WILL YOU BE DOING THIS CHRISTMAS?

Twilight



Alfred Chicken

GAMESMASTER 21.5

"Alfred" is a real st... this is classic
pattern action... incredibly addictive"
MEGA FORCE



Genesis

Awarded "Best Strategy
Game 1993" Tilt D'or
Award
JOYSTICK 90%
"Genesis will emerge as
the ultimate software"



Fury of the Furies

GENERATION 4 91%

"Furies is the 'Last Action
Hero' of computers"

1

Explaining the plot of
the Wizard of Oz to
your dad again

2

Politely ignoring grumpy's
wind problems.

3

Wondering if your entire
family have shares in the
"sock" market.

4

Playing THE best
games available this
Christmas, brought to
you by Mindscape



MINDSCAPE

MINDSCAPE INTERNATIONAL
PRIORITY HOUSE
CHARLES AVENUE
BURGESS HILL WEST SUSSEX
RH15 9PQ TEL 0444 246333



GOT 2 WAR

AMIGA A4000/040

The flagship of the Commodore Amiga range. Based around the 68040 processor. Comes with a Hard Drive, 2+4 RAM and USB 3.0.

| | |
|-----------------------|-----------------------|
| 85 Mb version - £1899 | 340Mb version - £2069 |
| 130Mb version - £1919 | 486Mb version - £2149 |
| 200Mb version - £1939 | 540Mb version - £2299 |
| 250Mb version - £1979 | |

AMIGA A4000/030

The same specifications as it's big brother but designed around the 68030 processor. The A4000/030 comes with a Hard Drive, 1+1 RAM and USB 3.0.

(FOR 2+2 PLEASE ADD £69)

| | |
|-----------------------|-----------------------|
| 85 Mb version - £899 | 340Mb version - £1099 |
| 130Mb version - £969 | 486Mb version - £1199 |
| 200Mb version - £999 | 540Mb version - £1299 |
| 250Mb version - £1039 | |

AMIGA A1200

The A1200 sports many of the features of the A4000 series. Based around the 68020 processor with 2Mb of RAM and USB 3.0 as standard. A full range of Hard Drives are also available for the A1200.

| | |
|-------------------------|--------------------------|
| Basic A1200 - £289 | 120Mb H.D version - £494 |
| 40Mb H.D version - £368 | 170Mb H.D version - £528 |
| 60Mb H.D version - £445 | 200Mb H.D version - £548 |
| 85Mb H.D version - £468 | 256Mb H.D version - £578 |

We are recognised in the Amiga community as one of the leading specialists in Hard Drives and Mass Data Storage.



DESKTOP DYNAMITE PACK

The desktop Dynamite Pack contains 5 pieces of software written specifically for the AGA chipset, which includes DPaintAGA, WordworthAGA, Oscar and other with a total street value of over £300. (PLEASE ADD £40 FOR DTD PACK)

GRAPHICS AND VIDEO

| | |
|--------------------|---------|
| REAL3D 2 | £378.50 |
| ART DEPT PRO | £134.99 |
| MORPH PLUS | £136.99 |
| DPAINT 4 AGA | £ 66.00 |
| DPAINT 4 | £ 59.99 |
| SCENERY ANIMATOR 4 | £ 54.99 |
| VISTA PRO 3 | £ 44.99 |
| MAKE PATH | £ 23.99 |
| TERRAFORM | £ 23.99 |
| SCALA MM210 | £ P.O.A |
| SCALA MM300 | £ P.O.A |

UTILITIES

| | |
|---------------------|---------|
| X-COPY PRO | £ 31.99 |
| GB ROUTE PLUS | £ 32.99 |
| LATTICE C V6.1 | £259.99 |
| DIRECTORY OPUS | £ 46.50 |
| VIDEO BACKUP SYSTEM | £ 49.95 |
| QUARTERBACK TOOLS | £ 47.50 |
| DEV PACK 3 | £ 53.99 |
| VIDI AMIGA 12 | £ 81.95 |
| DISTANT SUNS V4.2 | £ 39.99 |

MUSIC

| | |
|-------------------|---------|
| STEREO MASTER | £ 29.99 |
| BAARS & PIPES PRO | £215.99 |
| TECHNOSOUND TURBO | £ 58.50 |

WORD PROCESSOR & DTP

| | |
|---------------|--------|
| WORDWORTH 2 | £78.99 |
| FINAL COPY 2 | £74.99 |
| PENPAL | £28.95 |
| PAGESSETTER 3 | £43.99 |
| PRO DRAW V3.0 | £64.99 |
| PRO PAGE V4.0 | £89.99 |

GAMES

| | |
|-------------------------------|----------|
| CIVILISATION AGA | £ 39.00 |
| CIVILISATION AGA UPGRADE | £ -19.00 |
| (SEND YOUR DISKS AND DETAILS) | |

PRINTERS

| | |
|-----------------|---------|
| CITIZEN | |
| CITIZEN 240 | £212.00 |
| CITIZEN 240C | £234.00 |
| PANASONIC | |
| KXP 2123 COLOUR | £210.00 |
| KXP 2023 | £178.00 |
| HEWLETT PACKARD | |
| HP 500C | £290.00 |
| HP 510 | £246.00 |
| HP 550C | £490.00 |

DEMON



OVERDRIVE 35

These external hard drives come in an ABS box styled to match the Amiga A1200. They plug in via the PCMCIA slot and include an external PSU so as not to invalidate your Commodore warranty. Ultra fast

transfer rates of up to 2Mb/sec. Full 1 year warranty, all the software needed to mount and configure the drive is included.

| | |
|----------------------|----------------------|
| 130Mb version - £299 | 340Mb version - £449 |
| 200Mb version - £349 | 426Mb version - £549 |
| 250Mb version - £399 | 540Mb version - £699 |

A1200 UPGRADES

EXP SCSI/HARD BOARD

This board is user-fittable via the trapdoor expansion slot of the A1200. It has slots for up to 8Mb of 32bit RAM, a maths co-pro and includes a SCSI interface as standard.

| | |
|-------------------|---------|
| 0Mb / NO FPU | £179.00 |
| 4Mb RAM/33MHz FPU | £349.00 |
| SCSI CABLE KIT | £ 59.00 |

EXP A1250 BOARD

Another quality trapdoor expansion for the A1200. It features a 68030 processor as standard and has slots for a maths co-pro and up to 8Mb of 32bit RAM.

| | |
|-------------------|---------|
| 0Mb / NO FPU | £269.00 |
| 4Mb RAM/40MHz FPU | £439.00 |

EXP ACCESSORIES

| | |
|-----------------|---------|
| 25MHz 68882 FPU | £ 99.00 |
| 40MHz 68882 FPU | £189.00 |
| 1Mb 32bit RAM | £ 64.00 |
| 4Mb 32bit RAM | £153.00 |

EXP RAM BOARD

This budget expansion board fits via the trapdoor. It has 2x32bit SIMM sockets for up to 8Mb of memory, a 16MHz 68861 FPU, and a battery backed clock fitted as standard.

| | |
|------------------------|---------|
| 0Mb with 0Mb RAM/68861 | £ 99.00 |
| 0Mb with 1Mb RAM/68861 | £129.00 |
| 0Mb with 4Mb RAM/68861 | £229.00 |

100 INTERNAL HARD DRIVE ATTS

These kits come complete with screws, instructions and all the software necessary to prep and configure the drive.

| | | |
|--------------|--------------|-------------|
| 40Mb - £139 | 60Mb - £119 | 80Mb - £179 |
| 120Mb - £279 | 209Mb - £399 | |

A4000 UPGRADES

PHOTON (FOR A4000/030)

This board will transform an Amiga A4000/030 into a fully fledged 040. It features a 040 CPU module with a MMU and a built-in FPU running at 25MHz.

PHOTON UPGRADE £699

HELLFIRE (FOR A4000/050)

This is a replacement CPU board for the A4000/030. It features a 50 MHz clock speed, a built-in MMU and a 50 MHz 68882 FPU. Your 030 will only be 10% slower than an 040 during most operations.

HELLFIRE UPGRADE £299

040 128

The DKB 128 is a 0 wait state memory expansion board for the A4000 series. It has slots for up to 128Mb of 32bit RAM using SIMMS of any size. It is a true ZORRO 3 card which makes for a very fast board.

DKB BOARD (BLANK) £269 (See chips for mem)

HARD DRIVES (A1200 & A4000)

These Hard Drives can be fitted at any time by us (FOR THE A1200) or the end-user. All the necessary software is included.

| | |
|-----------------------|-----------------|
| 85Mb - £129.00 | 330Mb - £299.00 |
| 130Mb - £149.00 | 426Mb - £369.00 |
| 200Mb - £199.00 | 540Mb - £399.00 |
| 250Mb - £249.00 | |
| FITTING FEE FOR A1200 | £ 29.00 |

CHIPS

| | |
|---------------------------|---------|
| 1Mb SIMM | £ 39.00 |
| 4Mb SIMM | £134.00 |
| 25MHz 68882 FPU | £ 89.00 |
| 33MHz 68882 FPU + CRYSTAL | £ 99.00 |
| 40MHz 68882 FPU + CRYSTAL | £129.00 |

CD32 CONSOLE

This machine represents the future in home entertainment and video game play. A self-contained CD console which you can expand into a full CD based home computer. CD32 comes complete with two stunning AGR games.

ALL FOR JUST £279

We offer a full fitting, installation and advice service to anybody interested in upgrading or adding a Hard Drive to ANY system.

A full range of Amiga products are available from our mail order service at:-

SOFTWARE
DEMON Ltd.
(0736) 331039



COVERDISK 73

Well, if CU Amiga isn't the hottest and the best, then I'll eat my crisps (Cheese 'N' Chives - Urgh!). What's the biggest game this Christmas? Which game has more advertising than any other ever? What are we giving you a complete playable demo of? Acclaim's *Mortal Kombat*, of course. Would you ever expect less?

MORTAL KOMBAT

What kind of background do you need? *Streetfighter 2* came out, and was hailed as the greatest beat-'em-up ever and then came *Mortal Kombat*. In many ways it was a lot like *Streetfighter*, it had a variety of characters with different abilities, a collection of different back grounds and more special hidden moves than you could ever hope to have the time to learn.

It also brought something new - digitised graphics. A bunch of martial arts experts were filmed, and then placed in a game to obey the player's every command. Perhaps not the most dignified way to get famous, but then what is?

Anyway, to cut a long story short, *Mortal Kombat* has finally come to the Amiga - and it has done it in style. Last month's 93% mark should have told you that, but just in case you didn't believe us, here is a complete one-on-two player playable level from the game! Choose to play either Sonye Blade or Liu Kang and get your kicking fingers ready!

THE RULES

Come on, a game like this doesn't really need many rules. There are a few guidelines you might want to take note of: if only because they're going to leave you with some very high scores! The obvious thing to point out is that it's a beat-'em-up. Any player wins two fights in a row, then you don't fight a third, but you don't need to be told that, do you?

There are no restrictions on combat at all. Use any means you can, including any special or death moves you may have to finish the job. Just finish in the time allotted. If you run out of time, then the person with the least damage scored against them wins.

If you are good enough to finish a bout without taking a single hit, then you score a Flawless Victory, and get yourself a 200,000 point bonus. Do it again, for a Double Flawless Victory, and not only do you get endless praise from all your males and droves of the opposite sex beating a path to your door, but you also get an enormous 500,000 point bonus.

If you are about to win the second of your two bouts, you will be prompted to finish him or her. At this point you should use your death blow to land a whopping 100,000 point fatality bonus. If you have pulled off the blow correctly, the screen will darken.

Ready to fight?

THE MOVES

Remember grasshopper, you have to walk before you can learn to run. Don't start dreaming of special moves before you've mastered the basic moves of the characters, and to help you out, here's the whole list.

WALK

Te walk in a direction, just point the joystick the way you want to go. No fire button, nothing at all.

STANDING BLOCK

Like most games of this ilk, pulling the joystick in the direction away from your opponent with the fire button held down blocks their attacks on you. In *Mortal Kombat*, it doesn't do it as perfectly as you would hope. Each blow still takes a little energy away so don't just stand there getting hit if you can help it.

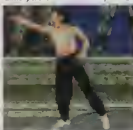
LOW PUNCH



To do a single low punch, push the joystick towards your enemy and press the fire button twice. To do a series of fast punches, press the fire button rapidly and continuously.

HIGH PUNCH

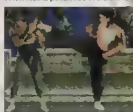
Exactly the same as the low punch.



except you don't need to push the joystick. Keep it central and tap the fire button twice to let out a punch, or hold it down to unleash a fury.

LOW KICK

A low kick is performed in the same



way as a low punch, except you only press the fire button once. If you are close to the character, you will use your knee instead of kicking.

HIGH KICK

To pull off a high kick, centre the joystick and tap the fire button once. Is this the easiest move in the world to pull off, or what? However, be careful, if you are too close to the opponent, you'll throw them over your shoulder instead.



ROUNDHOUSE KICK

Once regarded as the cornerstone of early beat-'em-up games, like *Way Of The Exploding Fist*, the Roundhouse is a fast and powerful kick, and one that is quite hard to block. To perform one, push the joystick in a down diagonal towards your opponent.

CROUCH

Get out of the way of high punches by kindergymnastically pulling down on the joystick.

SNEAKING BLOCK

In a sneaky way as the standing block, the low block doesn't completely prevent a punch. If you still want to use it, pull down on the joystick to crouch, and then push the joystick down and away from your opponent.

CROUCHING KICK

A very fast and quite sniping move, the crouching kick is the best way to get out of tight corners. To do one, pull down to crouch, and then pull the joystick down and towards your opponent. No fire button is needed.



Free

...with ALL Amigas and CD32

Jurassic Pack

The Latest Amiga A1200 Packs...



by...



PLUS... a Mouse Mat,
Dust Cover and Micro
Switched Joystick
with Amiga's - only from...

HARWOODS

and...

YOU decide which pack to
buy from a mammoth range
of Amiga A1200 options!

Desktop Dynamite



Amiga A1200 with Dennis,
Deluxe Paint IV, Oscar, Print
Manager & Wordworth Home WP

OR...

Race 'N' Chase



Amiga A1200 with Trolls and
Nigel Mansell's Grand Prix

Plus Packs with Hard Drives
Monitors and Printers too
ALL AT MONSTER SAVINGS!

DESKTOP DYNAMITE 1

Amiga A1200 with Dennis Dynamite Pack
with Dennis, Deluxe Paint IV, Oscar, Print
Manager and Wordworth Home WP,
Plus... FREE... Mouse Mat, Dust Cover,
Micro Switched Joystick and the
GAME... 1993

JURASSIC PARK £339.95

DESKTOP DYNAMITE 2

Plus the 1 as detailed above
plus... the Superb
Philips 15" Pro 2000 Colour Monitor/TV
giving you the best of the A1200 with a
mammoth display... Desktop
Pack 2 - Great Value at just

JURASSIC PARK £554.95

DESKTOP DYNAMITE 3

Dynamite Pack 3 has everything you'll
need in ONE complete bundle at a very
Special Price! We've added the market
leading Citizen 240C Colour Printer to
Dynamite Pack 2 (above) - the Perfect
Amiga Combination! Don't forget with
ALL our Amigas you get Free Mouse
Mat, Dust Cover, Joystick and

JURASSIC PARK only... £784.95

RACE 'N' CHASE 1

Amiga A1200 Race 'N' Chase
and Nigel Mansell's Grand Prix,
Plus... FREE... Mouse Mat, Dust Cover,
Joystick and the
GAME... 1993

JURASSIC PARK

RACE 'N' CHASE 2

Plus the 1 as detailed above
(including... Plus... the Superb
Philips 15" Pro 2000... Monitor/TV
the best of the A1200 with a
display... Race 'N' Chase
Pack 2 - a...

JURASSIC PARK 95

RACE 'N' CHASE 3

Race 'N' Chase Pack 3 has everything you'll
need in ONE complete bundle at a very
Special Price! We've added the market
leading Citizen 240C Colour Printer to
Race 'N' Chase Pack 2 (above) - the Perfect
Amiga Combination! Don't forget with
ALL our Amigas you get Free Mouse
Mat, Dust Cover, Joystick and

JURASSIC PARK £784.95

Amiga A1200
HARD DRIVE
OPTION

DESKTOP DYNAMITE CHOICES

RACE 'N' CHASE CHOICES

| STANDARD PACK Inc. Mouse, Keyboard, Monitor, Software etc. | STANDARD PACK plus PHILIPS PRO 2000 MONITOR/TV | STANDARD PACK plus PRO 2000 & CITIZEN 240C COLOUR PRINTER | STANDARD PACK Inc. Mouse, Keyboard, Monitor, Software etc. | STANDARD PACK plus PHILIPS PRO 2000 MONITOR/TV | STANDARD PACK plus PRO 2000 & CITIZEN 240C COLOUR PRINTER | |
|---|---|--|---|---|--|----------|
| 85MHz | £524.95 | £734.95 | £1014.95 | £499.95 | £704.95 | £964.95 |
| | £544.95 | £759.95 | £1029.95 | £514.95 | £724.95 | £984.95 |
| 210MHz | 704.95 | £924.95 | £1189.95 | £684.95 | £904.95 | £1164.95 |



AMIGA



acked!

gordon

35W00 computers

Harwoods LifeTime Warranty Plan

Now you can add a Warranty to ANY hardware item from Harwoods for less than you'd think! Take out up to 5yrs cover and at the end of that period you can extend cover annually... A LIFETIME'S Peace of Mind! What's more the Warranty is fully transferable enhancing resale value should you ever decide to upgrade your equipment. Available now even on hardware you may have purchased elsewhere.



POWER Pack 1

Amiga A1200 with 80Mb. Hard Drive, Citizen 240C Colour Printer & Philips 2000 Colour Monitor. PLUS: All cables, Dust Covers for Amiga & Printer, Citizen Print Manager 2, Printer Paper/Labels, Mouse Mat, Final CopyII, Superbase, Superplan, Nigel Mansell's Grand Prix and Troils AND...

FANTASTIC AT... **£999.95**

AMAZING PRICE



POWER Pack 2

Amiga A1200 POWERPRO PACK 1 as detailed above but with the Amazing MicroVitec CUBSCAN 1440 DMS 14" Colour Hi-Res Multi-Sync Monitor (in place of Philips PM 2000).

FOR THE REAL ENTHUSIAST AT A SPECIAL PRICE only... **£1199.95** AND WITH...

AMAZING PRICE

Amiga A1200
HARD DISK
DRIVE OPTIONS

POWERPRO PACK 1 with
80Mb HD A1200, Philips
Pro 2000 Monitor TV &
Citizen 240C Printer

POWERPRO PACK 2 with
80Mb HD A1200, Citizen
240C Printer & MicroVitec
MicroSync Monitor

130Mb.

£1019.95

£1219.95

£1189.95

£1389.95

ADDED VALUE PACKS

HARWOODS EXCLUSIVE POWERPLAY GAMES PACK

A GREAT BUNDLE OF 18 EXTRA GAMES TO
ADD TO OUR AMIGA OPTIONS.

YOU WON'T NEED TO BUY MORE FOR AGES!!!

Renegade 2 Megalad! Star Crazy TV Sports Football,
Hortages Jumping Jackson, Bunkie Plus, Windyways, Tri-Tri
on the Moon, Krypton Eggs, Purple Saturn Day, Elmhurst,
Skybase, Safari Gura, Lambert RAC Rally, Captain Blood,
Strike Force Harrier, Sky Fox 8 and Lancaster

only... **£19.95**

*dispatched with an Amiga or last £24.95 separately

*Not compatible with A1200/3500/4000



with FREE...

AMAZING PRICE

Available
soon!

Ideal for the ardent games player this 32bit CD ROM System will expand into a full computer as your needs grow with CBM's planned Keyboard, Drives etc.

£289.95

AMAZING PRICE

PHILIPS Displays

CM 8633 MKB 14" STEREO
COLOUR Inc. Leads/Dust Cover
PRO 2000 15" COLOUR SUPER-
RES MONITOR/TV Inc. Leads
The best of both Worlds - Quality
Computer Display and fully featured
FST High Definition TV in one! infra
red remote, FastText Teletext, Loop
Aerial, Headphone Socket.

£199.95

with 3000 Lead

£239.95

The one in all
Home/office
packs



Commodore Displays

CBM 1084S COLOUR 14"
STEREO Inc. Leads/Dust Cover
CBM 1942 MULTISYNC 14"
COLOUR STEREO Inc. Leads,
Dust Cover etc. (for A1200's,
3000's & 4000's) .28 Dot Pitch

£179.95

with 3000 Lead

NEW LOW...

£349.95

NEW... MICROVITEC CUBSCAN (no DMS)... THE
LOWEST COST MULTISYNC MONITOR AVAILABLE!!!

MicroVitec Displays

CUBSCAN (no DMS)... 14" Colour Hi-Res MultiSync
Monitor, 28 Dot Pitch available mid Jan, **£299.95**
CUBSCAN 1440 DMS... 14" Colour Hi-Res Multi-
Sync Monitor, Built-In DMS, 28 Dot Pitch **£429.95**

**0773
836781**

New Street • Alfreton
Derbyshire • DE55 7BP

Fax: 0773 831040



Amiga Accessories

| | |
|--------------------------|--------|
| Amibo V40 1.2, V2.00 | £74.95 |
| V40 1.2 Internal & Video | £84.95 |
| Technomaid Turbo Sanger | £29.95 |
| Neo Technomaid Turbo 2 | £44.95 |



Amiga Mouse

| | |
|-------------------------------|---------|
| Miracle keyboard | £249.95 |
| Mouse XL 68k version 1.1 | £24.95 |
| MSD Interface 5 pins or cable | £4.95 |
| ZTR Stereo Speakers | £29.95 |
| ZTR Pro Stereo Speakers | £54.95 |
| Stereo Master | £29.95 |
| Delmar Master | £49.95 |
| Vergosound | £249.95 |
| Power Stereo Head V40 Head | £127.95 |

Amiga Hard Disk Drives

| | |
|----------------------|----------|
| EPSON 10MB Hard Disk | £899.95 |
| EPSON 20MB Hard Disk | £1179.95 |

Amiga Software

| | |
|---|---------|
| ProDOS Perfect disk quality every level true video signal | £44.95 |
| Amiga 8002 32k software | £179.95 |
| Amiga 8002 32k software | £179.95 |
| Amiga 8002 32k software | £179.95 |

Amiga Software

| | |
|-------------------------|---------|
| Amiga 8002 32k software | £179.95 |
| Amiga 8002 32k software | £179.95 |
| Amiga 8002 32k software | £179.95 |

Amiga Software

| | |
|-------------------------|---------|
| Amiga 8002 32k software | £179.95 |
| Amiga 8002 32k software | £179.95 |
| Amiga 8002 32k software | £179.95 |

Amiga Software

| | |
|-------------------------|---------|
| Amiga 8002 32k software | £179.95 |
| Amiga 8002 32k software | £179.95 |
| Amiga 8002 32k software | £179.95 |

Amiga Software

| | |
|-------------------------|---------|
| Amiga 8002 32k software | £179.95 |
| Amiga 8002 32k software | £179.95 |
| Amiga 8002 32k software | £179.95 |

Amiga Book Shop

| | |
|------------------------------|--------|
| Amiga 1200 User's Guide | £14.95 |
| Amiga 1600 User's Guide | £14.95 |
| Mastering Amiga Assemblies | £14.95 |
| Mastering Amiga Beginners | £14.95 |
| Mastering Amiga C | £14.95 |
| Mastering Amiga Workbench | £14.95 |
| Mastering Amiga Dos V2 Vol 1 | £14.95 |
| Mastering Amiga Dos V2 Vol 2 | £14.95 |
| Mastering Amiga Dos V2 Vol 3 | £14.95 |
| Mastering Amiga DOS V2 | £14.95 |
| Mastering Amiga DOS V2 | £14.95 |
| Mastering Amiga DOS V2 | £14.95 |

External Amiga Disk Drives

| | |
|--|--------|
| Curious 3.5" External Disk Drive with throughput, extra long cable, free head cleaning kit | £99.95 |
|--|--------|

Amiga Hard Disk Drives

| | |
|--|--------|
| Curious 3.5" External Disk Drive with throughput, extra long cable, free head cleaning kit | £99.95 |
|--|--------|

Amiga Hard Disk Drives

| | |
|--|--------|
| Curious 3.5" External Disk Drive with throughput, extra long cable, free head cleaning kit | £99.95 |
|--|--------|

Amiga Hard Disk Drives

| | |
|--|--------|
| Curious 3.5" External Disk Drive with throughput, extra long cable, free head cleaning kit | £99.95 |
|--|--------|

Amiga Hard Disk Drives

| | |
|--|--------|
| Curious 3.5" External Disk Drive with throughput, extra long cable, free head cleaning kit | £99.95 |
|--|--------|

Amiga Hard Disk Drives

| | |
|--|--------|
| Curious 3.5" External Disk Drive with throughput, extra long cable, free head cleaning kit | £99.95 |
|--|--------|

Amiga Hard Disk Drives

| | |
|--|--------|
| Curious 3.5" External Disk Drive with throughput, extra long cable, free head cleaning kit | £99.95 |
|--|--------|

Amiga Software

| | |
|---------------|--------|
| Pixel Pix VLS | £49.95 |
| Pixel Pix VLS | £49.95 |
| Pixel Pix VLS | £49.95 |

Amiga Software

| | |
|---------------|--------|
| Pixel Pix VLS | £49.95 |
| Pixel Pix VLS | £49.95 |
| Pixel Pix VLS | £49.95 |

Amiga Software

| | |
|---------------|--------|
| Pixel Pix VLS | £49.95 |
| Pixel Pix VLS | £49.95 |
| Pixel Pix VLS | £49.95 |

Amiga Software

| | |
|---------------|--------|
| Pixel Pix VLS | £49.95 |
| Pixel Pix VLS | £49.95 |
| Pixel Pix VLS | £49.95 |

Amiga Software

| | |
|---------------|--------|
| Pixel Pix VLS | £49.95 |
| Pixel Pix VLS | £49.95 |
| Pixel Pix VLS | £49.95 |

Amiga Software

| | |
|---------------|--------|
| Pixel Pix VLS | £49.95 |
| Pixel Pix VLS | £49.95 |
| Pixel Pix VLS | £49.95 |

Amiga Software

| | |
|---------------|--------|
| Pixel Pix VLS | £49.95 |
| Pixel Pix VLS | £49.95 |
| Pixel Pix VLS | £49.95 |

Amiga Software

| | |
|---------------|--------|
| Pixel Pix VLS | £49.95 |
| Pixel Pix VLS | £49.95 |
| Pixel Pix VLS | £49.95 |

computer

0773 836781

Department

New Street • Alfreton

Derbyshire • DE55 7BP

Fax: 0773 831040

Amiga Software

| | |
|-------------------------|---------|
| Amiga 8002 32k software | £179.95 |
| Amiga 8002 32k software | £179.95 |
| Amiga 8002 32k software | £179.95 |

Amiga Software

| | |
|-------------------------|---------|
| Amiga 8002 32k software | £179.95 |
| Amiga 8002 32k software | £179.95 |
| Amiga 8002 32k software | £179.95 |

Amiga Software

| | |
|-------------------------|---------|
| Amiga 8002 32k software | £179.95 |
| Amiga 8002 32k software | £179.95 |
| Amiga 8002 32k software | £179.95 |

ANIMATION AND GRAPHICS SPECIAL

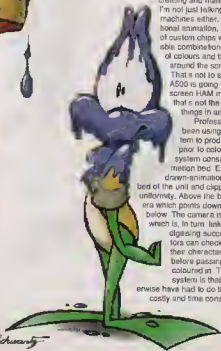
Professional animators and graphic artists alike are beginning to realise the vast potential of the Amiga. Mat Broomfield plonks himself in a front row seat and takes a look at how Amiga animation has made the leap from computer monitor to silver screen.

Whether or not you watch TV or go to the cinema, it's almost certain that you will have heard of, and probably seen at least one shining example of the Amiga's incredible versatility as a video production tool. Whether it's *Aladdin*, *Jurassic Park*, *Seaquest*, *Animate* or *Babylon 5*, the Amiga has demonstrated its abilities in impressive style, and that's just the tip of the iceberg.

YOUR FLEXIBLE FRIEND

The thing is, the Amiga offers so many ways of creating and manipulating graphics and I'm not just talking about the now AGA machines either. In terms of conventional animation, the Amiga has an array of custom chips which give it an unbeatable combination of high resolution, lots of colours and the power to move them around the screen at a decent speed. That's not to say that a bog standard A500 is going to be capable of full-screen HAM mode animation, but that's not the be all and end of all things in any case.

Professional animators have been using a Chromacolor system to produce quick pencil tests prior to colouring their work. The system consists of a frame and animation bed. Each piece of hand-drawn animation is placed onto the bed of the unit and clipped into the frame for uniformity. Above the bed is a rostrum camera which points downwards at the paper below. The camera is linked to a digitiser which is, in turn, linked to an Amiga. By digitising successive frames, animators can check that the motion of their characters is as they misread before passing the image over to be coloured in. The advantage of this system is that animators would otherwise have had to do the same job using costly and time-consuming film.



AND FOR THE ANIMATOR ON A BUDGET

For the semi pro animator there are a couple of dedicated Amiga software packages that ensure you never even have to come near a piece of paper. The first one, *The Disney Animation Studio*, was produced by the Disney Studio themselves so you can be damned certain that it's been designed with the finished results in mind. The Disney Animation Studio offers five levels of animation skinning and a quick means of sketching your frames. Although it's a few years old now the basics of two dimensional animation haven't changed so it's as relevant today as it was!

Presumably not wanting to be left out, Disney's arch rivals in the cartoon business Hanna-Barbera have just launched their own package called the *Animation Workshop*. Far from being from Empire, it's a cartoon animation package with the emphasis on speed and simplicity. Including some innovations such as built-in digitiser (requiring a Rombio digitiser cartridge) for converting hand-drawn frames to movie bitmaps, and making extensive use of onion skinning techniques as used by traditional cartoon animators, it seems to carve a niche for itself as a non-onsense cartoon creation system to get you started then it'll be officially licensed Hanna-Barbera clips and animations including *Scooby Doo*, *The Flintstones*, *Yogi Bear* and *The Jetsons*.

Undoubtedly the greatest movie revolution has been brought about by the accessibility of 3D programs which can be used to add a new dimension and level of realism to animations.

Although *Trix* was the first to demonstrate the startling effect to which computer graphics could be used, it was films such as *Terminator 2* and the *Alphas* that really got the ball rolling. To be fair the *Star Trek* movies had incorporated extensive use of 3D computer graphics to excellent effect, in scenes such as the time travel and Genesis sequences. However, it was the stunning fluidity and total realism of the *Terminator* robot in *Terminator 2* and the water probe in the *Alphas* that really triggered everyone's imaginations.

Speaking of imaginations, *Imagine* is one of the most widely used 3D ray tracing packages in the world, and because it's also available on the PC, Amiga owners benefit from a wide selection of ready made 3D object sources.

Before I go any further, quick explanation of the way the 3D programs work. Objects are defined as a kind of three dimensional mesh. The surface of the mesh can be given colour, texture and reflective properties just like real objects. Unlike real objects, these 3D 'models' as they're called, can be squashed and distorted, moved and resized at will. This makes them ideal for circumstances where a particular effect would be either physically impossible to recreate (a car turning into a rocket for example) or would be too costly (such as the animation of space ships or submarines).

CARTOON HELPERS

These models can also be used as a template in two dimensional animation, and this is exactly what happened in Disney's *Aladdin*. There are lots of scenes in the film where an exceptional level of three dimensional realism was called for. Using conventional animation techniques, these scenes would have been impossible.

For example throughout the film a Persian carpet flies to and fro, and has a personality all of its own. Now that may seem unremarkable until you consider the fact that the carpet has a complex pattern on it which, of course, has to twist and turn in perfect synchronisation. So what was the solution? Simply define a carpet model in *Imagine* and map the pattern onto the model so that the two move as one.

Now it's simply a matter of moving the carpet within the frame and in the knowledge that the pattern will always perform as it should. Another important effect is the carpet ride from the college caverns. *Aladdin* and his monkey ride on the magic carpet whilst all around them the Tiger caverns are collapsing and exploding. This calls for a high level of perspective calculation, but with a 3D package the computer takes care of that, leaving the animators more or less free to concentrate on the surrounding action.

Of course, I wouldn't want to minimise the effort put in by Disney's team. The 3D program was simply a tool, and not one that saved time. To do the things that they did requires hundreds of hours of work, and entirely new skills had to be learned. The computer isn't a replacement for an animator's talent, it simply provides him with a new way to express it.

THE QUEST FOR REALITY

Back to the real world, and the 3D effects in *Sequester* have been wowing Sunday night television viewers. What perhaps they didn't know is that all the special effects, including the submarines, the Hyper Reality Probe, WISKAS and all other undersea objects are actual 3D models created on the Amiga using the Video Toaster and Lightwave 3D software.

The Video Toaster is a graphics and effects engine designed for the NTSC television system. It comes in a number of configurations but basically it's a big box Amiga (A2000, 3000 or 4000) with Newtek's proprietary hardware inside. The Toaster is supplied with a variety of tools to perform effects such as Picture in Picture,



multi source mixing, tiling and much more. However,

it's a rendering engine that the program is becoming best known for in Europe. The reason for this is that the NTSC television standard is of notoriously poor quality and would not really be acceptable for display on the European PAL standard. Unfortunately the Toaster's operation is totally integrated into this poor display standard. To create a PAL version of the hardware would require a total redesign that Newtek are not prepared to perform.

LEARNING HOW TO DO IT

Of course, it's one thing to know that all these great effects are possible, but another thing entirely to create them for yourself. Now thanks to well written programs such as *Deluxe Paint*, *Briarcliff*, *Imagine*, *Real3D* and a host of others, it's very easy to learn the basics.

And you'll be able to learn a career and wanting to get into film production. You can quickly start experimenting with limited effects and you'll doubtless have a lot of fun. Given many years of practice you might even conceivably become good enough to make your own films. However, with more powerful equipment and proper tuition you can accelerate that learning process massively.

There's never really been a clear career path for people wanting to get into this kind of work. A good standard of art, or excellent design skills are obviously helpful, as are a knowledge of computers and the kind of software available for them.

Now at last, a dedicated college of animation offers courses in all the disciplines required to become a successful computer animator. Tony Dixon went to Dublin to check the college out and you can read about his experiences on page 30. **20**

THE AMIGA AT THE MOVIES

As I've already mentioned, the Amiga has been used to help in making TV and film productions. Here's a selection of the places it's been used:

- *Sequester* - On LWT *Sequester* 6,30pm - Video Toaster used to create the UFOs and all undersea scuba divers, submarines (such as, *Sequester*, *Sequester*).
- *Baywatch* - Available on video - Video Toaster used extensively to create all speedily underwater and many national effects on video.
- *Jurassic Park* - In the cinema - Several hundred Video Toasters were used to create 3D portraits of the dinosaur animators prior to them being overlaid on the latter graphics images.
- *AmigaQuest* - Likely to be shown in Europe in early '94 - The UFOs were all done in ultra high resolution using GVP's new Advanced Graphics System.
- *Roboquest* - Available on video - The face graphics of the mutant robot were done on the Amiga.
- *Aladdin* - In the cinema - The 3D scenes were done using *Imagine* 2.



BACK TO THE DRAWING BOARD

GRAPHICS AND
ANIMATION SPECIAL

Amiga animation has come on in leaps and bounds over the last few years. So much so, in fact, it's now possible to take a diploma in computer animation and graphics using you humble Amiga and a little bit of talent. Tony Dillon draws some conclusions.



A frame from one of the glorious animations produced on the course.

We've known all along how good the Amiga is at doing animated graphics. We've all seen what Tobias Richter and Eric Schwartz can do with a simple piece of software and a little time. Finally, after what seems like an eternity, the world of animation is starting to wake up to the fact that the Amiga is an excellent animation workstation. Names like Bluth and Disney may seem a little big for the average Amiga animator, but already both companies are hiring animators trained in using A3000s and A4000s. But where does an animator go to get noticed? Films? User groups? No, the Senior College in Ballyfermot.

Unless you work in professional animation or class, you probably won't have heard of the College. Hidden away in a Dublin suburb, the Arts block of the Senior College is *The Place To Be* for animation. Looking at some of the images across these pages (and note: none of these have been created by graduates). They are all images created by students working their way through the course, is it any wonder that Don Bluth himself forms part of the animation board?

But before we dive in headfirst, a little history

The college itself was officially opened in 1981 as 'an exciting and challenging venture in Irish Education'. One of the original aims of the college was to provide training to meet the needs of business, industry, social services and the newer areas like radio, television, animation, computing and electronics. Four years ago the animation and computer courses met in an explosive and exciting way and, with a little encouragement from Sheridan College, Toronto, the Diploma in Computer Animation and Graphics was born.

TWO HEADS ARE BETTER THAN ONE...

Two of the minds behind the course are Principal Jerome Morrissey and teacher Steve Macken, and it was these two genial gentlemen who proudly took me through the college while explaining how the course works. Essentially, you start with a three year course in classical animation—the real McCoy—where students learn how to create the illusion of movement convincingly, the best shots and direction techniques, character animation,

A mounted video camera and a frame grabber is used to select animations.

body movements—in short, the basic skills any animator would need.

An actual course in animation seems like such an obvious idea, you wonder why more colleges haven't jumped on the bandwagon. For example, the Disney-owned Sheridan College, formed in 1970, is now regarded as the leading animation educational institute. Essentially, if you get a pass from Sheridan, then you're already half way to a very successful career in animation. They introduced a computer animation course in 1982, and now Senior College have taken that same course modified to their own needs and are now running an extremely successful diploma. The standards are high, naturally, especially when you consider the fact that many students are actually being taken on by Disney and Bluth before they even finish the third year of the course!

After the three years of classical animation, by which time the students are more than capable of producing extremely professional results, they can opt to start computer animation. This way, the students can learn every aspect of animation and then apply it to the digital medium. As Steve Macken explains: 'You have to know the rules before you can break them. In classical animation, everything is curves and arcs. In computer animation, everything is straight lines.' By teaching the students to work in arcs, and then applying that to something like *Imaginer*, you move into real photo-realistic animation. Believe me when I tell you that the screenshots on these pages do the animators themselves no justice at all. When this lot get into the software industry, there are a lot of people who are going to lose their jobs.

FRUIT LOOPS

Interestingly enough, the first thing the students have to do when they start creating graphics on the Amiga is a bowl of fruit. For those who have





The first part of the course is still life rendering. This one is from Philip Quinn.



This is by Andrew Phelan, who wins the award for the most photorealistic image. The watch above is a 4 Meg image!



Not every draws as real life, as this futuristic battle scene from Scott Kelly shows.


never done on an art course, the first bit of still life you ever do is a bowl of fruit to show your understanding of scale, light and texture. Students sit down with Imagine 2 and create the most photorealistic apples and oranges they can, but with the one restriction that they are not allowed to use any of the in-built textures. As you can see from the pictures on this page, it makes for some very different fruitbowls!

This might seem a bit of a grandiose statement, but you really have to see some of the animations that haven't made the grade to understand the levels attained. One student, drew and animated a Queen concert. Although similar to the original video, the art is stylised and simplified, and shows excellent use of timing and synchronising. However, it didn't pass as the judges claimed it was too close to the original, and couldn't really be graded as classical animation. This isn't a sob

story by the way. Although the student in question didn't gain his degree, he still went to work for Buith Ireland. Obviously what's good enough for the general public isn't good enough for the Senior College Ballyfermot.

But what does this really have to do with the Amiga world, you might well ask. How does a quartet of a million spent on Amiga hardware and software sound to you? The course started small a couple of years ago with a handful of A500s, but since then the network has grown to include six A4000s, four A3000 Towers and 14 A3000i. Every machine has at least 18 Mb of RAM, a 250 Mb hard drive, a 24-bit graphic board and all are connected to a Beta SP high grade video recorder. They chose the Amiga simply because there was nothing to compare to Deluxe Paint V! AGA or Imagine 2 on the PC. Sure, there are rendering packages a plenty across the PC, but power per pound, the Amiga makes the best sense. Of course Jerome would love to have a few Silicon Graphic workstations dotted about the place, but cost is always the restrictive bone of contention.

QUIETLY CONFIDENT

Jerome Morrisey is very upbeat about the course and very excited. Anyone who has ever spoken to a teacher or head teacher about a course will know how excited they can get, but to me their excitement always seems false. With Jerome, though, it is most definitely genuine. He had an idea, and it's now working beautifully in practice. There is still plenty of room for expansion as there always will be, but the people alongside him such as Steve Macken, Andrew Phelan, Philip Dunne, Jason McDonald, Caroline Peele and everyone else on the course are participating in a revolution, and the Senior College is the place that will be known for taking computer animation into the next century. 



This is by Scott Kelly.

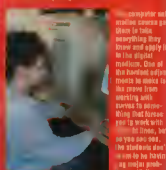
FOUR YEARS IN THE LIFE OF AN ANIMATION STUDENT



The lecture hall, as you will, this is a bunch of first year students, learning the basics of animation. At the moment they are learning how to create a realistic wave movement. Pictures are drawn on animation sheets, and then scanned into a Amiga and played back. This way, the students can instantly see exactly how their animations are progressing.



In the third year, when the students are working on their final animated project, they are given their own animation bench - almost new from Scanlon College at great expense - to work in. Here they have everything they need, while working in an environment that reflects the working environment completely.



computer animation course gets down to business. Everything they know and apply it to the digital medium. One of the hardest adjustments to make is the move from working with curves to something that forces you to work with straight lines, but as you can see, the students don't seem to be having any major problems with it.



BATTLE OF THE TITANS

GRAPHICS AND
ANIMATION SPECIAL

For years *Deluxe Paint* has ruled the roost as the Amiga's premier paint package. *Brilliance* is the first program that stands a real chance of stealing its thunder.

In the Amiga's earliest days, the only paint package was a hideous piece of software called *Graphic Craft*. It was a clunky old thing that didn't even have a tool for drawing circles. In late 1985 *Deluxe Paint* was released and met with a rapturous reception winning awards across the world. A standard was set for art packages which, while frequently contested, was never bested. Some of the worthier opponents over the years included *Photon Paint*, *Spectracolour* and *Digipaint*. It's interesting to see that all the worthwhile competition came in the form of HAM-only programs. This was one of the areas of weakness in the earlier versions of *DPaint*, and in fact it wasn't until version 4 that Electronic Arts thought to include support for this quirky screen mode.

HAM mode is a special Amiga screen mode that lets you use up to 4096 colours (8 colours at normal Amiga) or 256,000 on an AGA machine. The thing about this mode is that it's quirky to program for, and most people don't use it except when handling digitised pictures. Games never use this mode because the screen updates are so slow and results can be extremely unpredictable. This makes it useless for arcade games. Another undesirable side effect of this screen mode is that picture files are rather large, and this makes them impractical for inclusion in adventure-style games.

TAKE IT FROM THE TOP

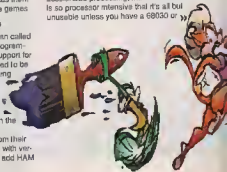
Deluxe Paint was designed by an American called Dan Silva. It was originally written as a programmer's tool, hence the fact that it has no support for HAM mode. It was never originally intended to be used as an art package. It was for designing game graphics and nothing else.

As the program's popularity became evident, it was bundled with the Amiga, and in fact there's almost never been a time when it was not included with the machine in Britain.

Responding to increasing pressure from their users, Electronic Arts included animation with version 3, but held off till the next release to add HAM mode support.

Version 4.0 offered support for HAM-8 mode which is the type of HAM used on the new AGA Amigas. Unfortunately this was almost immediately made obsolete by the release of the A1200 and A4000. However, Electronic Arts were very quick to respond and, in next to no time, *DPaint* AGA appeared with full support of HAM 8 as well as HAM-6 and all the non-HAM screen modes (including extra halftone).

Unfortunately, although the new machines offer accelerated processing, the HAM-8 mode is so processor intensive that it's all but unusable unless you have a 68030 or »





NOW AVAILABLE ON AMIGA & ATARI ST

"The best, the fastest,
the smoothest racing
game ever..."

Licensed by
FOCA to
Full Television
Network Inc.

F1
FORMULA 1
WORLD
CHAMPIONSHIP

DOMARK

Champions of Sport

Stop and Mark Drive are trademarks of
Sasak Enterprises, Ltd.
F1 An Official Product of the FIA
Formula One World Championship
Promoted by FIA's FIA Formula One World
Championship Ltd.
Copyright 1993 Domark Group Ltd.
The game is rated as the 1993 Formula 1 season.
Produced by Domark Software Ltd. Terry Moore
1993 Terry Moore Pictures London SW17 9PP England

GRAPHICS AND ANIMATION SPECIAL

► 68040 based

Amiga

So now the stage had been set. Despite restrictions,

Deluxe Paint had thus far resisted all challengers and the AGA version set the standard that all other programs had to reach.

AND THE CHALLENGER IS....

Digital Creations meanwhile had been doing their own thing as far as Amiga graphics were concerned. In the days before AGA they released a board called DCTV which could handle several million colours on screen at once, and was ideal for animation. They started developing what they hoped would be the ultimate Amiga graphics program. With a programming team that collectively have more experience with Amiga graphics programs than anyone else, it comes as no surprise that their sights are set so high.

After a considerable amount of pre-release hype and speculation *Brilliance* finally hit the streets in the third quarter of 1993.

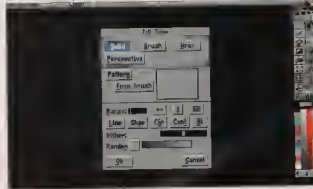
AND SO THE BATTLE BEGINS....

The first important difference between the programs is evident before you even load them. No, I'm not talking about the box design (although *Brilliance's* box is cheap by comparison to *DPaint's*), I'm talking about the fact that

Deluxe Paint is full of a wealth of tools that may at first seem pointless, but when used with imagination, can bring your pictures and animations to life. One of the many variations on the symmetry function can be used to create the kind of light patterns effect seen here.



Even the fill options in *Deluxe Paint* that a wealth of dedicated options, graduated line, lines and mesh-3D effects are a problem, especially when you've set up a suitable palette with a good gradation of colours from one end of the scale to the other.



JARGON BUSTERS

- **5-bit, 8-bit, 16-bit and 24-bit** - Each on-screen pixel is stored in the computer's memory on a number of bits. The more bits, the more colours, up to a maximum of 24 which gives a palette of 16.
- **7 million colours** - More than the human eye can detect.
- **Bit** - The smallest amount of computer memory on disk storage space.
- **AGA - Advanced Graphics Architecture** - The graphics card which describes the new high powered graphics modes found in the A1201, A4000 and C032.
- **HAM - Hold and Modify** - A quirky graphics mode which uses a kind of binary to increase the number of on-screen colours. Ordinary Amiga mode HAM-8 to give up to 4096 colours on the screen at once, whilst AGA marvellous *aga* HAM-16 to give up 256,000.
- **Prosecco** - The chip in the Amiga which does most of the work.
- **Tall font** - An on-screen font maintaining lines representing different functions. Designed to save you having to mouse around or use the keyboard.

MANUAL OPERATIONS

Perhaps the single most important feature of any computerised program is the quality of its manual, and this is no area where *Brilliance* falls short of the high standards set by *DPaint*. *DPaint* guides the user carefully through every conceivable aspect of the program's operation, breaking nothing to anyone hoping that you'll be able to work out the gaps. There are extensive tutorials and lots of explanatory material on disk. There is also a detailed reference manual that will aid you as you move from a beginner to a demanding graphics user.

By contrast the *Brilliance* manual seems to have been written by someone who got bored with the job half way through. Of course, the graphics are fine, and initially the manual switches from guide-you-by-the-hand mode to explaining-the-possibilities that is essential. The index is little better, as you'll discover if you try to look up 'Perspective' for instance. You'll find a single entry directing you to the section on drawing. Admittedly this is the right general area to be in, but finding the information you need to be given straight.

Deluxe Paint is a single program which incorporates a HAM and non-HAM engine. Load that program and you can switch freely between the screen modes without having to reload the program each time. *Brilliance*, on the other hand, is two separate programs. *True Brilliance*, a true colour program for manipulating HAM and 24-bit images, and *Brilliance* - a register based program which deals with all other screen modes.

FEARSOME TWOSOME

The reasoning behind having two separate programs is that the requirements of a HAM art package are very different to those of a non-HAM one. To a certain extent Digital Creations have overcome this by forcing their program to use full 15 or 24-bit colour registers internally, before converting the data for output to the existing screen. Nevertheless, because of the vast palette available even to a HAM-6 image, let alone a HAM-8 or 24-bit one, functions such as the stencil have to work in different ways.

Deluxe Paint deals with this problem by implementing different parts of code according to the screen mode. But, to be fair, this solution is a long way short of the optimum.

Nevertheless, I have to say that I prefer not to have to decide what screen mode I'll work in before I load the software.

Another important difference between the pro-

grams is the matter of copy protection. Whilst *DPaint* uses a serial number which uniquely identifies each copy of the program, but which is extremely easy to copy, *Brilliance* uses a serial number and a dongle. The dongle must be plugged into the joystick port before the program will run. I strongly dislike this form of protection which, in any case, is not enough to deter the professional pirates and the boot-sale merchants. It wouldn't be so bad if the dongle had a through port so it could be left plugged in permanently but as it is, you have to unplug it each time you need the joystick port (perhaps for another dongle). I currently have eight programs that use dongles and they drive me mad - except *Scale* which does have a through port.



BUBBA STIX



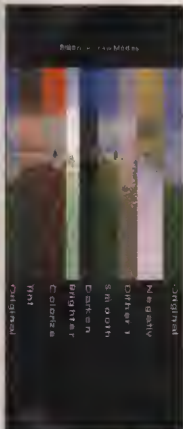
Available on Amiga (1 mag only)

Our goofy hero and his friend - an intelligent alien stick - have crash landed on a weird planet after being captured by an alien spacecraft. In order to get back to Earth, Bubba must use his stick in a variety of different ways to solve puzzles, overcome adversaries and foil the comedic attempts of his kidnapper to recapture him in this horizontally scrolling puzzle.



Screen shots taken from Amiga version

CORE
DESIGN LIMITED



Both Brilliance and Deluxe Paint offer animation facilities, with much the same features available in both, although Brilliance sometimes presents them in a more user-friendly way.

» Anyway, time to load the programs. DPaint always interrupts the loading sequence to give you registration information and ask for your preferred screen mode. Brilliance, on the other hand, just jumps straight into the program.

Brilliance bears more than a passing resemblance to Photol Paint with its horizontal tool box and it's not quite Workbench 2.0 colour scheme. DPaint, of course, has its toolbox running down the right of the screen. The upshot of this seemingly superficial difference in positioning is that Brilliance manages to get an impressive 31 tools on the screen at once, whereas DPaint only manages 20. It also means that more of the screen is occupied by menus, but strangely enough this doesn't seem intrusive. That's just as well because the difference in Digital Creations' approach is far more fundamental than simply repositioning the tool box.

After extensive consultations with some of the world's best known artists, they decided that the ultimate art package didn't need drop-down menus at all. In fact, as much as possible, all selection is done via icons, with text being restricted to the essentials. Whilst this approach works extremely well with the drawing tools, it's a much more comfortable selecting important functions like load and save from a proper menu rather than choosing from icons which I could conceivably mistake in a hurry.

THE SAME... BUT DIFFERENT

At first it looks as if Brilliance has more or less the same drawing tools as Deluxe Paint. This is

Left: Here is a picture variety processed in Brilliance. The many different effects make Brilliance a good choice for retouching high definition 256 colour, HAM-8 or 24-bit images.

Below: Deluxe Paint doesn't have as many image-altering processes, and neither can it work on true 24-bit images, but it gets by well with its limited selection.



FILE FORMATS

One important factor distinguishes Brilliance from DPaint, and that's its ability to work with 24-bit images. Now, of course, these can't be displayed on the screen to all their glory, but on its AGA machine in HAM-8 mode, the loss of colour resolution is not too terrible. This makes it ideal for retouching 24-bit images.

The program can also load and save 15-bit pictures, as well as its older colleagues Amiga images formats.

Deluxe Paint 4 AGA makes an effort, and can at least load 24-bit images, even if it can't save them.

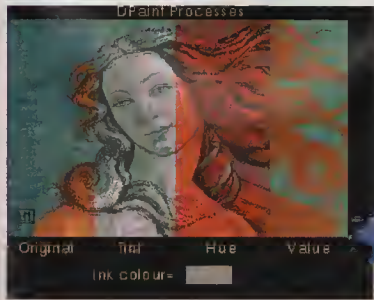
Inevitable because no matter how sophisticated the new features, all art packages need some fundamental drawing tools such as freehand lines, circles etc. It's to Digital Creations' credit that they even managed to make some small but significant changes to these basic tools, because it illustrates the attention to detail that their design team must have shown.

For example, there's an arc tool for creating curves, but the tool also doubles up to give you a Bézier option for creating complex curves (those which either exceed 360° or which change direction within the curve). This circle tool has gone, and this option is now combined with the ellipse tool. To create a circle simply press the Caps Lock key whilst drawing an ellipse. Release it and the shape becomes a circle. Brilliance also lets you rotate ellipses once they're drawn, a feature which was absent from DPaint.

On the subject of ellipses (and rectangles too for that matter), Brilliance offers you a choice of drawing methods for these shapes, and each is useful in different circumstances. The two choices are corner to corner, or centre to corner.

The airbrush tool in Brilliance has also received the treatment, and now has two extra parameters which can be used to make it behave much more like a real air brush. The first of these is the flow rate. In DPaint the flow is constant, and only changes relative to the area being covered.

For instance, if you are covering an area two inches across, the flow will be slow, whereas when spraying an area a quarter of an inch the rate of flow is much faster. Added to that, Brilliance lets you adjust the focus of the spray, defining whether it is not pixels.



FEATURES COMPARISON TABLE

| | OPAINT | BRILLIANCE |
|--|-----------------------|------------------------|
| Supports all Amiga screen modes | Y | Y (2 program) |
| # of tool icons on screen | 20 | 31 |
| DRAWING TOOLS | | |
| Dotted freehand | Y | Y |
| Continuous freehand | Y | Y |
| Filled freehand | Y | Y |
| Line | Y | Y |
| Continuous line/filled continuous line | Y | Y |
| Curve | Y | Y |
| Bezier curve | N | Y |
| Rectangle/filled rectangle | Y | Y |
| Adjustable origin | Y | Y (in a HCSN tool) |
| Circle/filled circle | Y | Y |
| Ellipse/filled ellipse | Y | Y |
| Adjustable origin | N | Y |
| Aspect can be rotated | N | Y |
| Col rectangle brush | Y | Y |
| Extended glasshair whitest cutting | Y (only on a polygon) | Y |
| Freehand brush stored as: | Rectangle | Wagged shape |
| Grid | Y | Y |
| Symmetry | Y | N |
| Cyclic | Y | Y |
| Mirror | Y | N |
| Tile | Y | Y |
| Number of | 23 | 31 |
| Magnification levels | N | Y |
| Grid | N | Y |
| FILL TYPES | | |
| Solid | Y | Y |
| Brush | Y | Y |
| Tile fill | Y | Y |
| Stretch | N | Y |
| Shape/wrap | Y | Y |
| Perspective | Y | Y |
| BOTHER FILLS | | |
| Ordered dither | N | Y |
| Ink & Background | N | Y |
| Ink and Paper | Y | Y |
| Lines | Y | Y |
| Shape | Y | Y |
| Circular | Y | Y |
| Radial | N | Y |
| Highlight | Y | Y |
| Horizontal | Y | Y |
| Horizontal shape | Y | Y |
| Vertical | Y | Y |
| Conform | N | Y |
| AIRBRUSH | | |
| Paintable | Y | Y |
| Adjustable rate of flow | N | Y |
| Adjustable foam | N | Y |
| Random colour spray | N | Y |
| TEXT | | |
| Change font directory | Y | N |
| Distorted fonts | Y | Y |
| Comographic (scalable) fonts | Y | Y |
| Justification | N | N |
| Styling | Basic | Basic |
| Colour font | Y | Y |
| Kernel | Y | Y |
| Type directly onto screen | Y | N |
| Type into a buffer | N | Y |
| Number of modes | 1 | Limited only by memory |
| Number of rules | 1 | Limited only by memory |
| BRUSH HANDLING | | |
| Number of brushes | 2 | 5 |
| Reset | Y | Y |
| Freehand stretch | Y (both axes only) | Y (either axis) |
| Half | Y (either axis) | Y (either axis) |
| Double | Y (either axis) | Y (either axis) |
| Flip | Y | Y |
| Edge/Trim | Y | Y |
| Outline | Y | Y |
| Rotate | Y | Y |
| 90 degrees | Y | Y |

LIB BETWEEN DPAINT AND BRILLIANCE

| | | |
|--|---------------------------|------------------------------------|
| Any angle linehead | y | y |
| Any angle (in degrees) | n | y |
| Shear | y (either axis) | y (either axis) |
| Hard | y (either axis) | y (either axis) |
| Handle | | |
| any corner | y | y |
| center | y | y |
| place | y | y |
| DRAWING MODES | | |
| Matte (DPaint) Color (Brilliance) | y | y |
| Colour (DPaint) Brush (Brilliance) | y | y |
| Anglicize | y | y |
| Smear | y | y |
| Average Smear | n | y |
| Shade (DPaint) Range (Brilliance) | y | y |
| Fill | y | n |
| Cycle | y | y |
| Smooth | y | y |
| Mix | y | y |
| Hard | y | y |
| Colorize | y (New in process menu) | y |
| Brightness | n | y |
| Darken | n | y |
| Trim | y (in process menu) | y |
| Magnify | n | y |
| Not | n | y |
| Value | y | n |
| Anti Alias | y (3 levels) | y (4 levels) |
| Opacity | y (Transparency) | y (Transparency) |
| ANIMATION | | |
| Anim brushes | y | y |
| Pick up | y | y |
| Brush morphing | y | y |
| Full screen | y | y |
| Video style panel | y | y |
| AUTO CONTROLS | | |
| Movement in 3 axes | y | y |
| Rotation in 3 axes | n | y |
| Opacity | y | y |
| Once | y | y |
| Trail | y | y |
| Cyclic motion | y | y |
| Ease layout | y (all cases at once) | y (lower defined axes) |
| Separate Ease for rotation and position | y | y |
| Define key frames manually | n | y |
| Animated fill | n | y |
| Preview | y | y |
| Quick frame search | y | y |
| Light table (main skin) | y | n |
| COLOUR | | |
| Number of ranges | 8 | 8 |
| Hard edges | n | y |
| Lines definable # of steps between range colours | n | y |
| Random dither | y | y |
| Variable dither | y | y |
| Cycle rate | 64 speeds | 21 speeds |
| PREPARATIONS | | |
| Virtual palette for cycling | y | y |
| PALETTE | | |
| Flexibility | Adequate rgb, hsv | Excellent rgb, cmv, lab |
| Colour models | y | y |
| Virtual palette when mixing colours | 24-bit on AGA machines | 50-bit (Brilliance) |
| Palette resolution | 5-bit on non-AGA machines | 15-bit or 24-bit (True Brilliance) |
| STENCIL TYPES | | |
| Register based on non HAM | y | y |
| Tolerance based on HAM | y | y |
| Freehand draw a block (stencil) | n | y |
| Background fill | y | y |
| Perspective | y | y (in animation menu) |
| Graphics pad support | y | n |
| Number of spare screens | 1 | Limited only in memory |
| Printing | Adequate | Very Poor |
| Calculation speed (for brush realising and other colouring operations) | V Slow | V Fast |
| Opening speed in HAM | Unbearably slow | Moderate |
| Interface design | 85% | 85% |
| Interfereance | 87% | 84% |
| OVERALL SCORE | 89% | 90% |

GRAPHICS AND ANIMATION SPECIAL

» will appear evenly over the entire area of the spray or will be concentrated in the centre. It's also nice to see

that Brilliance provides you with a frame to show exactly where the spray will appear

THE DOWNSIDE

The text tool is one weakness that both programs share, although each of them handle text badly in their own unique way! Neither of them support any form of justification, and only the simplest form of styling (bold, italics and underline) can be applied to the text. Both programs can handle bitmapped, scalable and colour fonts. Brilliance even supports a rather bizarrely implemented form of manual kerning to make certain letter pairs look more natural together. When using DPaint, text is typed directly onto the screen, and to move it you need to pick it up as a brush. Brilliance, on the other hand, lets you enter text into a string which then automatically becomes a brush ready to be positioned. The disadvantage of this system is that you need to reselect the text gadget for each new line of text because you can only enter in a single line at a time.

When it comes to brush handling Brilliance is far more flexible, both in terms of the way that brushes are picked up, and the way that they can be stored and manipulated. For example, DPaint's freehand cut mode is actually a polygon cut. A shape is defined using a series of connected lines which must link to form an enclosed shape. Closing the shape can be a game on its own sometimes! Brilliance offers you a true freehand cut called Carve. Whenever you move the scalpel a line will appear. When you close the shape the brush is lifted. Better yet, the brush will only encompass the area you cut, unlike DPaint which encloses the brush in a rectangle.

Once the brush has been cut, there is a vast number of operations that can be performed upon it. In this regard DPaint was always a bit of a ground breaker, providing options to rotate and skew, bend and resize your brush. Unfortunately, it handles memory very badly so trying to perform these operations upon a full screen brush is usually impossible. Even when it is possible it's often so slow that it's all but unusable. Brilliance yet again scores here because, of course, it can not



Perspective is one of Deflame's strongest features. Any two-dimensional art designs can be used as a 3D texture, and used to really screen such as this.

only handle full screen brushes, it can perform brush manipulations faster and with more flexibility.

DRAW MODE VARIETY

Another area that DPaint pioneered and which both programs still score very highly on is the range of drawing modes that they offer. These can be used to alter the way that 'ink' is laid on the screen, and are particularly useful to those who are either very creative or who have artistic training.

Here again, Brilliance wins out, but only just thanks to its Negative, Not, Lighten and Average Smear options.

When it comes to animation, Brilliance quite simply stomps on the opposition, although you

again DPaint gamely rallies and manages to provide a few very important features not offered by its rival.

For instance, it supports a feature that they call Light Table. To a professional animator it is better known as onion skinning and is a way of looking at dim versions of previous frames in a sequence in order to check that the design and movement of the current frame is correct. For animators who have learnt their craft the traditional way, this is an invaluable feature, and one that Brilliance seems strangely to have omitted.

By way of compensation though, it does provide a vastly more powerful tweening section. Tweening is the process of defining the start and end of a movement and allowing the computer to



The horizontal control panel of Brilliance is preferred by some, although it makes little difference to the operation of the program.

BRILLIANCE £149.95

A500 ☒ A500+ ☒ A500 ☒ A1200 ☒
A1500 ☒ A2000 ☒ A3000 ☒ A4000 ☒

An Amiga with Workbench 2.04 or higher and at least 2Mb RAM. A hard drive and 2 floppies also required.
MERIDIAN DISTRIBUTION, EAST HOUSE, EAST ROAD INDUSTRIAL ESTATE, LONDON SW19 1AM. TEL: 081 543 3500.

EASE OF USE

It's a bit hard to learn at first, but plain sailing once you do. **90%**

VALUE FOR MONEY

The price is very high, but can be bought elsewhere for half that if you look around. **96%**

EFFECTIVENESS

I can't really fault the end results. **99%**

FLEXIBILITY

Builds the high standards met by DPaint at a much better price. **97%**

INNOVATION

Builds what were the foundations laid by DPaint. **89%**

The only Amiga graphics package that can take DPaint on and win.

OVERALL 91%

DPaint £99.99

A500 ☒ A500+ ☒ A500 ☒ A1200 ☒
A1500 ☒ A2000 ☒ A3000 ☒ A4000 ☒

An Amiga with Workbench 2.04 or higher and at least 2Mb RAM. A hard drive and 2 floppies also required.
ELECTRONIC ARTS, 30 MERON DRIVE, LANGLEY, BARKSNIERE SL3 8XP. TEL: 0753 549442.

EASE OF USE

Like most worthwhile programs it'll take awhile to learn, but very powerful once you do. **88%**

VALUE FOR MONEY

Compared to all other programs of its stature - it bangs. **90%**

EFFECTIVENESS

Very powerful but awfully slow and a bit third row. **79%**

FLEXIBILITY

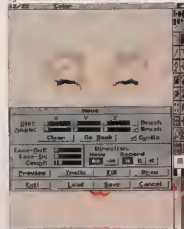
Brilliance has demonstrated how good things can get, but DPaint can still turn a few special tricks. **99%**

INNOVATION

Very innovative when new, but so much now. **92%**

A great program that still has a great deal to commend it, not least the price.

OVERALL 89%



The Wipe requestor is the key to some of Deflame's most powerful animation and 'tweening' features.

THE BATTLE HAS JUST BEGUN...



Lee Thomas who is working on DPaint 4

You don't have to be a critic to notice that *Brilliance* seems to have considerably better than *Deluxe Paint* in this review and, presumably, me. It would not be an unreasonable thing to ask whether or not the package which has dominated the Amiga market for so many years is finally going to rest in peace.

The answer to it is not really a resounding bell no! There are two reasons why *Brilliance Paint* isn't likely to stay in the game for the foreseeable future. Firstly it is limited to one window of the screen of Amiga's world-every year. This means that there are a similar number of results to the program, and it's when first time or so Amiga graphics package is DPaint. The other important thing to consider is *Brilliance* has no real advantage. They're definitely not only the old and the old, but, historically speaking, competition has always made them become back with an even stronger product. Even before *Brilliance* hit the shelves *Electronic Arts* had begun the detailed consultation necessary to design the new program. Now with the benefit of seeing what makes *Brilliance* so good, it won't be long before *Deluxe Paint* will really be something to talk about.

work out the intervening frames. Both programs are quite strong in this one, *Deluxe Paint* with its Move requester and *Brilliance* with its twinning tool. In DPaint you specify a start point by stamping a brush onto the screen. You then define the end point as a position relative to the start point. You can also define any rotations that you want the brush to perform in transit.

Brilliance takes a slightly different, but far more logical approach. Again you define the start point of the brush (although this time you do so by entering an x, y, z coordinate). You must also enter the end point in the same way. The end co-ordinates can either represent an absolute position or a relative one.

Where the program really scores is its Adjust option which lets you define the start and end points by dragging the brush into position. You can position it in all three axes as well as defining any rotations it is to perform.

As if that weren't enough you can now adjust the opacity (transparency) of a brush as it moves, which makes the program ideal for video titling where fade in and fade out are needed. This option is particularly useful when pen formed on an AIG image.

LIFE IN THE OLD GIRL YET

One of the more frequently used options of any paint package is its fill modes. *Deluxe Paint* scores very highly in this regard, offering 13 different types of fill type ranging from perspective and pattern fills, to every conceivable type of dithered fill. *Brilliance* only appears to offer 10 different fill types, until you notice that there are two additional options (Conform and Centre) which can alter the way that all of the other fills work, increasing the total number of effects from 10 to 40.

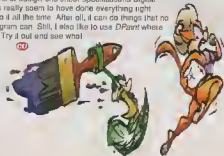
In addition to that, there's also an Ordered Fill mode (which DPaint lacks) that works by filling with a pattern of ink coloured pixels, combining them with either the background ink or the paper colour. This fill mode is particularly useful when you're working in a high resolution or with a limited palette.

CONCLUSION

Deluxe Paint 4 is undoubtedly a very powerful and flexible program that rightly deserves its place of honour near the top of the pile. It seems to me that in creating *Brilliance* Digital Creations must have looked at every tiny feature that made DPaint so good, and thought to themselves: 'How can we improve upon that?'. If they came up with an answer, it was implemented, if not, things were left well enough alone. Ninety-nine per cent of the time Digital Creations came with improvements that made a difference.

The only absolutely essential thing that they could neither improve upon nor duplicate was the sense of familiarity and friendliness that DPaint offered its users. In fact, to a certain extent, DPaint itself had lost some of that 'homey' feel when it was upgraded from version 3 to version 4, and many users still feel that version 3 was the best. *Electronic Arts* are well developed.

In terms of design and sheer specifications Digital Creations really seem to have done everything right. Sure I use it all the time. After all, it can do things that no other program can. Still, I also like to use DPaint where possible. Try it out and see what you think.



EMERALD
Creative Technology Ltd

Rapld House, 54 Wandle Bank
London SW19 1DW

Tel: 081 715 8866

Fax: 081 715 8877

| | |
|---|---------|
| Pen Pal..... | £29.99 |
| Final Copy 2..... | £69.99 |
| Final Writer..... | £99.99 |
| X-Copy Pro Latest Version..... | £34.99 |
| Amos Professional..... | £39.99 |
| Amos Compiler..... | £29.95 |
| DevPac 3..... | £59.95 |
| CanDo V2.5..... | £119.95 |
| PC Task..... | £39.95 |
| Broadcast Tiler 2 Super Hi Res AGA..... | £167.94 |
| Real 3D Classic..... | £79.95 |
| Real 3D V2.0..... | £575.95 |
| Montage 24..... | £277.00 |
| Arena Accounts..... | £89.95 |
| Art Department Professional V2.3..... | £146.95 |
| Doug Cramer's Pro Control..... | £55.95 |
| Bars & Pipes Professional V2.0..... | £199.95 |
| One Stop Music Shop..... | £499.95 |
| Superjam V1.1..... | £79.95 |
| Synch Pro..... | £151.96 |
| Triple Play Plus..... | £169.95 |
| Bars & Pipes add on kits prices start at..... | £29.99 |
| - Please call..... | |
| Megalosound..... | £24.99 |

Books: Bruce Smith A1200 Insider Guide.....£13.95
Bruce Smith A600 Insider Guide.....£13.95

We stock the full range of Bruce Smith Books

| | |
|--|---------|
| Epson GT6500 Scanner..... | £799.99 |
| with ASIOX driver software..... | £194.95 |
| Ultimate Video Editing..... | £159.95 |
| Brilliance..... | £159.95 |
| Deluxe Music Construction Kit V2..... | £71.95 |
| Directory Opus 4 - Latest Version..... | £49.95 |
| Render 8802 FMC Genlock..... | £159.95 |
| Technosound Turbo 2.0..... | £39.95 |
| 5 Base Personal 4 Oxd..... | £69.95 |
| Superbase: Professional IV V1.3..... | £239.95 |
| Vidi 12 Realtime..... | £159.95 |
| Vidi 24 Realtime..... | £239.95 |
| Broadcast Tiler Accessories pack..... | £100.00 |
| Turbo Print Professional V2.0..... | £39.95 |
| Typesmith..... | £99.95 |
| Colligat 24..... | £59.95 |
| Colligat Broadcast v3.1..... | £499.00 |
| Distant Stars V4.2..... | £49.95 |
| Vista Pro 3.0..... | £59.95 |
| Makepath for Vista..... | £24.95 |
| Terraform for Vista..... | £24.95 |

Cheque Cheques: Order under £500 is £2.00

£51 - £100 is £3.00

Over £100 is £4.50

Credit Card orders - Call our Credit card hotline for immediate despatch.

Orders by post: Please make your cheques payable to Emerald Creative Technology Ltd and allow 7 days for clearance.

Goods are sold subject to our standard terms and conditions of sale and are available on request. Specifications and prices are subject to change without notice.

Credit Cards not debited until goods are shipped.

All prices include VAT.

Look ahead. Look far, far ahead to the
year 3200 and imagine a basic space craft
as your only worthwhile possession. If you
are to fulfil your burning ambition to be the
best, you must defeat the best by coupling
your inherited flying skills with a vast
knowledge of the Universe. Outwit the
pirates by basting them at their own game.
Be merciless, be wise, beware.



PC Screen shot



AMIGA 500

DA
BRA
PRES

FRONT

 **KONAMI**

E L

ELITE

"Elite game? It's a way of life!"

Personal Computer World magazine

only the very best

Available on PC

© David Braben 1993, Licensed



PC Screenshot

DAVID
ABEN
SENTS

FRONTIER

THE
MIDDLE AGES

GAMETEK

1993 - FRONTIER - ELITE II

**"The ultimate in space adventure,
Frontier is the single most important step forward
for games this decade."**

CU Amiga - 97%

Signature with time

PC, AMIGA, ATARI ST

© 1993 Gametek. Distributed by Gametek



INTERVIEW WITH JIM SACHS

GRAPHICS AND ANIMATION SPECIAL

Jim Sachs is widely acclaimed as one of the Amiga's most popular artists, and a mover in powerful circles. He took time out of his busy schedule to speak to Mat Broomfield.

Jim Sachs left college in 1977 and went straight into the workforce. After serving six years as a C141 pilot, he founded a company called Sachs Enterprises. He takes up the story from there.

Jim: I was freshly out of the workforce and looking for something to build a career on. I was always interested in art, graphics, technology and things like that. Suddenly everyone was getting into computers. So I went out and got a Commodore 64 to try to learn what I was missing.

Within a month I found that I had a flair for it and was writing machine language programs. I found that it had the ability to show much more realistic graphics than most other platforms, so I thought that was a good niche for me to try to fill. I started doing graphics on graph paper and transferring them into the computer. In hexadecimal arithmetic because there were no art programs or anything at that point.

I created a scene of downtown Washington DC and it turned out so well that my wife suggested making it into a game. So I added some flying saucers and that formed the basis for my first game on the Commodore 64 called *Saucer Attack*.

Mat: Is that game the inspiration for your saucer demo on the CD32?

Jim: Yes it is.

Mat: So you started out writing games for the C64. Did you write any more games for that computer?

Jim: I marketed that one out of my house. Privacy at that time was just terrible on the Commodore 64. I was about half way through another project called *Time Crystal* when I heard that the Amiga was coming out. I decided to switch, which was a very hard decision because I'd spent about a year and a half, almost two years on *Time Crystal*.

So, basically, I took everything I'd done on the 64 and bought a ticket to West Chester, Pennsylvania. I went to Commodore unannounced and I talked to Paul Goheen who was the head of Commodore software at that time. So I just went into his office and showed him what I could do on the Commodore 64 and asked if I could be a developer on the Amiga which wasn't actually out yet at that point. He agreed and within a month I was working for them.

Mat: And you really hadn't had any contact with them prior to that point?

Jim: Absolutely. Although they were familiar with *Saucer Attack* and were considering talking to me about publishing it under their label.

Mat: So you mentioned that you were interested in graphics and obviously that's your trademark. Do you have any formal training either in art or graphic design?

Jim: No. None at all.

Mat: So it was just something that you did as a hobby?

Jim: Yes, I've always done quite a bit of it. But as far as formal training goes, when I was in college all of the art training seemed to be moving towards modern art and things that I wasn't interested in at all. I was interested in highly detailed, highly realistic graphics. What they wanted you to do in college art classes was stand 20 feet away and throw paint at the canvas!

Mat: So a stupid question perhaps but what are you like on paper? Can you use a pencil or oils perhaps?

Jim: Yeah, I don't much anymore, but just after I got out of the air force I supported myself by doing pencil sketch portraits for 25 dollars each. In fact, the main reason I got into it was that I felt a bit weak on the human face so I tried to teach myself. I've worked with elkbush, charcoal, watercolours, oils, just about everything that's out there, but I really prefer the computer.

Mat: I gather you were not happy with the original version of *Defender of the Crown*. What reservations did you have?

Jim: I was relatively happy with it at the time. All the music and the artwork had been done before the programmer was finalised. We had already tried two different programming teams who I found it too difficult. I suggested to Cinemaware that we hire RJ Michael who designed the oper-

ating system for the Amiga, in trying to get it done so quickly, he was not able to use any data compression at all, so the game had to be on two disks instead of one, and even then a lot of my original artwork had to be cut out. I was also never really happy with the music.

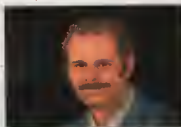
Mat: To what extent were the graphics in the game influenced by films?

Jim: Robin Hood is a pretty good one because things are very colourful in that. Of course the actual game is based on Ivanhoe.

Mat: So that was the basis for the plot?

Jim: Yeah. Almost exactly taken from Ivanhoe. A lot of the names too. When I did *Defender of the Crown 2* I based it even more closely on Ivanhoe in that now the goal of the game is not to try to take over England and become King. It is to raise £20,000 to ransom Richard the Lionheart back from Aulins.

Mat: I believe you did that to get the historical accuracy?



Left: One of Jim's earlier works, this self portrait only took about a day to draw. Below: It was images such as this one which turned the now-famous *World* magazine which really helped Jim's work make a name for himself worldwide.



Jim: Right!

Mat: So is absolute accuracy and realism very important to you in game design then?

Jim: As far as venets go, yeah I think so. People are looking for something that looks authentic. The costumes are authentic, the way the castles are constructed is believable. I think I really adds a lot to any project.

Mat: You said that you applied to be involved in Commodore development in 1985. Where did that actually lead you?

Jim: When I received my Amiga I worked for about 30 days just experimenting with it. The only graphics program available was Graphic Craft which was a really hard program to use. It was commissioned from Island Graphics by Commodore.

A lot of lectures that we take for granted now were just not implemented. You couldn't even draw circles! So anyway, I did about eight or 10 screens just to experiment. To see how far I could push the envelope. Then I took these to the first Amiga show which was in San Francisco in about February '86. I wandered around and showed my screens to people and got a lot of interest, but the two companies that really liked me were Cinemaware who were only in the conceptual stage at that point, and Aegis Development.

Mat: And that, of course, led on to *Defender of the Crown*. So at that time you were working with Commodore and Cinemaware?

Jim: No, not with Commodore. They were supporting me with developer hardware and information. A lot of my graphics ended up being used in their advertisements and in different demos and things like that. Few people ever asked me if they could do that, it was just taken for granted.

Mat: It would be true to say that *Defender of the Crown* helped sell Amigas as that graphic style epitomised the promise offered by the Amiga. What else did you do with Cinemaware?

Jim: I was only the art director at Cinemaware during *Defender of the Crown*. The working conditions were so bad that I told them that was going to be my end and only project.

Mat: What was the problem there?

Jim: Unbelievable pressure. People calling me all end two in the morning to make sure I was still working. Everything was riding on that project. It was the first Cinemaware game to come out and it had to set the whole style and tone for a whole new genre of computer games. If you look at everything prior to that, it was pretty much hackneyed!

Mat: But it succeeded, of course.

Jim: Yeah, and I'm very grateful to see how it's gone. I mean it was very lonely. I would teach classes and try to make people understand that *Pacman* is not the only style that this computer can do.

Mat: Are you satisfied with the job that you've done on *Defender*?

Jim: Considering the age of the project, yes I'm pleased with the way it turned out. I got to deal almost everything I wanted to make it as good as the original version should have been.

Mat: I understand that you had some input on the CD32?

Jim: I did all the graphics that are built into CDTV. The routing grid screen, the user interface for the preferences and the audio panel, and all that kind of stuff, that's all my design. On the CD32 that's not true even though I was hired to do most of it. They changed it so drastically that I don't want my name even connected with it now.

Mat: So tell me about the original CD32 designs



Living near Los Angeles where the traffic jams are constant it's not surprising to see that Jim is a motorcycle freak.

Jim: I designed the start-up for when you turned the machine on. There was some music - a fanfare. They kept that. Then the letters C and D totalled to form a CD. Then the word Amiga formed out of a kind of Europa effect in the background above that burned in red and then the letters CD came in a kind of lighting effect. Then the color cycling started in the background and they kept some of that, but they changed the logo.

Mat: They didn't like it?

Jim: They told me that I had a completely free hand to design what I wanted, but then it turned out they had already started using another design which they'd had licensed as their trade mark. So what Lew Eggert told me was just not true. The art department there was already much further along than I had been led to believe.

Mat: Did that make you angry?

Jim: Yeah. Not angry because they changed something I'd done, but because they changed my work for artwork that I wouldn't have accepted from one of my students on the Commodore 64 let alone the Amiga. This is the face to the world, by which the whole machine will be judged. That low resolution graphic makes the CD32 look like a toy rather than a serious contender like the Jaguar and the 3DO.

Hardware-wise the CD32 is every bit as good as these other machines, but people won't get close to it that way because of this toy-like atmosphere that's set as soon as you turn the machine on.

Mat: You keep talking to the teaching that you've done. Can you expand on that?

Jim: I did a series of seminars on the Amiga. I did all of the AmigaExpos including Germany. I also gave seminars at colleges and different meeting halls where I taught for an entire weekend. I taught everything from how to draw, how to art make and how to record clearly in a desktop video environment. I wasn't on very good terms with Newtek and after *Video Toaster* came out I stepped back because that was the way that everybody seemed to want to go. Nobody wanted to do two dimensional graphics anymore.

Mat: Changing the subject now. Do you think that Commodore has what it takes to carry the company forward to the future?

Jim: Not with the present administration. There

are some upper level management problems that nmm, well let's just say that, in my opinion, Jim Oline was not the right guy to go to.

Mat: So what's the situation as you see it?

Jim: From what I understand, there's a movement to get a delegation together to go to the next stockholder's meeting which is held in the Bahamas. The reason it's held there is because that's where Irving Gould lives. It's very difficult for stockholders in the US to go to these meetings. So there's a movement to go to the Bahamas and raise a point of order to put this before the voters.

The two seats on the board that are up for contention are Irving Gould and Alexander Holz (who is the former Secretary of State, by the way). This movement wants to replace those two people with their own people so that the interests of the stockholders are better represented.

The idea is once the grass roots movement people got at least two of their people onto the board, they can swing the board into releasing [very long pause] well, let's just say a VERY senior member of staff. I don't know how to say this without mentioning his name, but that's one person at Commodore in a very high level position that has no interest in computers at all - no interest in making computers whatsoever. He's just in it for the money. And in our view [the grass roots movement] a computer company should be run by people that are very interested and fascinated by the product that they're making.

Mat: I notice that you're very reluctant to mention this person's name. Is that for legal reasons or because you fear repercussions?

Jim: Oh no. Commodore has paid every bill they ever owed me and they're not indebted to me at all, so I'm free and clear at Commodore at this point. I'm just not sure if my saying things like this will cause more harm than good. As things stand right now, I'm switching to 3DO. If the upper level management changes at Commodore, I'm

perfectly willing to come back to the CD32 and do some major development on it.

Mat: Speaking of 3DO, how much of a threat do you think that poses to the CD32?

Jim: At the current price point there's no threat. At the price point that 3DO could theoretically sell at it would be very competitive price-wise with CD32. I'm not sure if that's privileged information or not.



Color Added by the artist. Written for the CD32. The Amiga CD32 is the best system for Amiga graphics. The Amiga CD32 is the best system for Amiga graphics. The Amiga CD32 is the best system for Amiga graphics.

So if I don't want any stronger than that, you know why I know what they can go down to and they can be very very compelling against the CD32 if they want to.

Don't fall for the myth that 3DO is far more superior hardware-wise to CD32. It's not. In some respects CD32 will beat 3DO in just raw resolution. CD32 has over four times the resolution of 3DO.

Mel: So how's the CD32 doing over there?
Jim: It hasn't really launched over here yet. There's no advertising or anything. Still, it's a very strong piece of hardware and it's just a matter of getting the right support. They need some American developers too. They've only got British and maybe a few German developers right now.

They made a big mistake in not telling the developers about it a year ago at the big developer's conference in Florida. They made a lot of enemies there. A lot of companies paid their own way to be there from all over the world, and they went there thinking that they were going to hear all about the latest thing that Commodore was working on. But no, the machine was never mentioned. A lot of people were really upset about that.

Mel: But isn't it a fair point that with the market becoming ever more competitive, that they should want to stop the opposition from finding out what they're up to for as long as possible. Especially Sega who had their own MegaCD product?

Jim: Well the Sega machine was already out at that point and within the first 30 days it sold 300,000 units. Nintendo is still way off on the horizon even now. So no, I don't see that as a problem.

Commodore was way ahead of everybody

else with the technology. I would have liked to see them tell all the developers about it. Get them started on it. You know it takes a long time to develop a CD32 title, especially anything that's based on a movie or something. Like a good version of Jurassic Park, maybe Jurassic Park 2, that's the movie. There's no reason that the graphics that we're seeing on CD32 can't be at least as good as the movie. Not the usual little overhead view, typical computer game style. That's just a sore point with me because I've been campaigning for about a year to be the one to do Jurassic Park on CD32 and then they gave it to Ocean.

Mel: You were also involved with Brilliance, the new art package from Digital Creations. What was your level of involvement there?

Jim: They would ask my advice about different user interface issues and features that I would like to see in it. I have a very heavy time investment in Deluxe Paint. I had more time learning and using Deluxe Paint than I will probably have anywhere else in the world! Sixteen hours a day, sitting at that screen for seven years with almost no days off.

I was already on friendly terms with Digital Creations and they came to me a little over a year ago and asked me if I would lend my thoughts to what the user interface should include. At the same time they commissioned me to do the illustration that would form the box cover and would feature in all their advertisements. For that they gave me an Amiga 4000 and a monitor to go with it and a last modern because we had to modern the picture book and forth every couple of days as they kept wanting changes made to it. In fact, I did that picture using a very early beta of the program, and my experience using it helped them to improve it even more.

Mel: So how long did that little screen take you?
Jim: That took about three weeks of solid work and about another week when you combine all the retouches and changes that were made.

Mel: How do you feel it compares to DPaint?
Jim: I've switched from DPaint for the most part. There are a couple of things in DPaint 3 that I find easier to use. I'm not talking about DPaint 4.5

Because the palette requester in that is in HAM, it's unusable for a professional. Now Brilliance has an interrupt halfway down the screen and the colours can change on every single scan line so everything in the palette is exactly what you'll see on the screen - nothing in HAM or anything like that. But every once in a while I will switch back to DPaint 3 just for a feature that I'm a little bit more comfortable in using. Not that it's really any easier, or any more powerful, just that I'm so used to it.

Mel: You've already stated your view on the current Amiga situation, but it things change at Commodore. In the ways you'd like, what kind of projects do you see yourself working in?

Jim: I'll probably do 20,000 Leagues under the Sea very soon.

Mel: Is that in conjunction with anyone?

Jim: No. Not yet. Probably Disney. When I was still working on the CDTV I had talks with people who are no longer at Commodore about the funding coming from them, with very little, if anything from Disney - even though it would probably come out under the Disney label.

Mel: Do you have any closing comments that you'd like to make?

Jim: I'm always impressed with Commodore hard ware and can't wait to see the new machines when they finally do hit the market. I'm very excited about the Triple A machines. There are a lot of features that I've been looking for for a long time that are incorporated into this new next technology.

Mel: Thank you very much for your time. **CU**

Graphics such as the one seen in the Legend of Kyrandia are the result of the Amiga CD32's new art package, Digital Creations' Brilliance.



AND FINALLY...

Amiga graphics are hot stuff. Whether it's using a 24-bit board to create photographic quality animations, or an ordinary 5-bit art package like using your home videos, no other home computer comes close in terms of value for money at graphics power.

Even so, the world is constantly changing and no area more quickly so than computer technology. When the Amiga was born, PC graphics were positively prehistoric by comparison, but of course nothing stays the same and the PC market just kept growing and growing with machines improving all the time. With the 486 S-VGA PCs, the Amiga seemed at last to have been defeated (although it was still a quarter of the price or less). Then, with their usual good timing, Commodore pulled a rabbit call AGA out of the hat, and, yet again, the Amiga reigns supreme as the de facto home computer.

Of course technology companies nowadays must innovate or die and Commodore has an almost impeccable record in this regard, with CDTV being the only real fly in the ointment. Still, if you want to achieve widespread success, it's no longer

good enough to build great hardware, you've got to have great software and preferably be PC compatible as well. Commodore's Chief of Engineering is a real genius called Law Eggbecker, a guy who has not only designed some of the hottest Amiga hardware in his time, but was actually one of the people who designed the original IBM PC.

The next generation of Amiga look absolutely certain to offer Windows NT support, and will offer even greater graphics features than the AGA machines. It's guaranteed that the new Amiga's palette will be greater than the current one, and that only seems to leave 24 bits as a serious option.

Whilst such a machine would eventually spell doom to all those manufacturers who offer third party graphics boards, it would mean that they could start work on video effects hardware sale in the knowledge that all users have a 24 bit machine to work on. As the minimum specification for Amigas increases, it seems likely that we'll be seeing considerably more sophisticated

software. At the moment full screen motion video is only possible with special add-on cards and acceleration, but the launch of CD32 technology makes it likely that we'll be moving in new directions brought about by the massive storage offered by such devices. Of course we'll also benefit from the research that brought about the FMV card for the CD32.

Virtual Reality is a buzzword that just won't go away, and I suspect that future generations of the Amiga will be at the head of the queue to explore this concept in a home environment. Whilst we're not yet whizzing around the galaxy getting lost, in many ways technology has far exceeded even the wildest dreams, and yet Amiga is right at the very forefront of home innovation. **CU**



F-117A™

The Definitive Simulation of America's Radar Elusive Jet



A shadowy, gleaming craft steals through the night sky. Out of sight but never out of mind. Sleek. Slicing through the dark.

No blips register on the radar. No sign is given.

Then, in an instant, an explosion bursts through the murky twilight and, as quickly as it appeared, the Nighthawk melts back into the shadows.

The F-117A has carried out another stealth mission.

MicroProse present the definitive simulation of the world's most elusive jet: the F-117A.

Now with eye-popping graphics, sensational sound, thrilling music and a vast array of awesome missions across NINE of the world's 'hot-spots'. Catch it if you can!

F-117A, Nighthawk Stealth Fighter 2.0

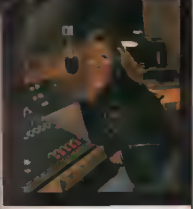
*Unprecedented, uncompromising
and undetected.*

MICROPROSE
Seriously Fun Software

MicroProse Ltd., The Ridge, Chipping Sodbury,
Avon BS17 6AY, Tel: 0666 504399

Available for IBM PC Compatibles and
NOW for Commodore Amiga





So one of you have to doubt heard my Radio 1 announcement that I'm off to the good old USA at the end of January 1994. After months of negotiations with my bosses at the BBC I've landed the job of a 1st time as Radio 1's official West Coast correspondent. I'll be reporting live and Direct from Los Angeles and San Francisco with the odd Trip to New York thrown in for good measure. And so although I'll be living most of the year stateside I'm still going to be very much part of the Radio 1 network, and best of all I'm definitely going to keep you loyal customers updated with all the latest computer news as well as the up to the minute games releases in L.A. and the UK. So as soon as I've finished working on my suitcase I'll be busy on the keyboard, reporting to everyone at Inda as usual. Keep watching this space.

Best Wishes
J.B.

Jackie Brambles



AMIGA 1200/030 PROFESSIONAL PACK

"Approx. 1.5 times faster than an A4000/030
This is the ultimate power configuration. If your dream is to own the gilt edged A1200 ever there take a look at this special edition.
* Amiga 1200 + 4Mb 32-bit Fast RAM (Expandable to an Amazing 135 MB!) + Microbotics M1230 XA W550MMHz MMU (Approx. 13 times faster than an A4000/030!) + 12 Months 'At Home Warranty' + Choice of Hard Drive Capacities + Optional 50MHz 68882 FPU Maths Processor
80 Mb Version Desktop Dynamite £689.99
120 Mb Version Desktop Dynamite £929.99
170 Mb Version Desktop Dynamite £959.99
68882 50MHz FPU £132.54



It's here - The new Amiga 4000/030
The NEW Amiga 4000/030 features a 68030 processor running at an incredible 25MHz (upgradable later). The 4000/030 has a powerful 2 Mb of 32-bit RAM (expandable to 18 Mb using industry standard 32-bit SIMM modules). It also features the Amiga 4000/030 graphics chip, giving you a massive palette of 16.7 million colours. Without a doubt it's the best value A4000/030 configuration in the UK.
4000/030 80MBHD £899.99
A full range of approved upgrades are available for the 4000/030, including additional memory modules, hard drives, FPU's (68881, 68882) and the 32-bit Opti Vision graphics and video system.



Parnet Adapter for CDTV
Connect a CDTV player to any Amiga, and access the world of CD-ROM software. The Parnet interface and software will allow the Amiga CDTV to be used as a CD-ROM drive with any Amiga and will give any Amiga owner access to the vast range of CDTV software currently available.
£39.99

Amiga 1200 Microbotics Memory Expansion Boards and Accelerators

Do you want your Amiga 1200 to have more memory or to go faster by simply fitting a board into the external trapdoor? Microbotics have an extensive range of products with the immense benefit of 'Chipup' technology. Most boards have soldered chips which do not allow expansion beyond your initial purchase. Microbotics products allow you to add extra memory as your computing skills grow and new software arrives demanding even more memory.

Memory Expansion Boards

| Speed | 4Mb | 8Mb |
|--------|---------|---------|
| 14 Mhz | £247.99 | £447.99 |
| 25 Mhz | £307.99 | £517.99 |
| 50 Mhz | £377.99 | £577.99 |

Accelerator Boards

| Speed | 4Mb | 8Mb |
|--------|---------|---------|
| 400MHz | £345.99 | £595.99 |
| 50 Mhz | £475.99 | £709.99 |



Commodore have today announced that the best deal for Amiga CD is now here. A further two great games bundled with a making it a 15.5 (5+ you save from Inda).
Wing Commander - You are a Starfighter, the best of the best, but nothing is too taxing prepared you for this. This is a space combat the way it should be. **Armo Power**
Dangerous Streets - The greatest stories on earth are ready to be death well-bruising action that will blow your mind. Take on 8 mighty challengers ready to do battle wither stick life.

NEW AWARD WINNERS PACK

The superb New Award Winners Pack based on the A600. Without a doubt this is the best value around complete with 4 great games.
Pack Contains:
* Amiga 600 Single Drive
* Built in TV Modulator
4 Great Games
* Populous * Kickoff
* Pipemania * Space Ace
* 12 Months at Home Warranty

£179.99

THE WILD WEIRD

A600 is the ideal starter pack, specifying a considered list of software, fitting the most of the Amiga capabilities.

PACK CONTAINS:

- * A600 Single Drive
- * Built in TV Modulator
- * 1Mb Memory
- * Pipedream
- * Sissy Putty: Deluxe Paint II
- * Mouse & Mouseball
- * 12 Months at home service.

AM08 EPIC PACK 180 MBHD

PACK INCLUDES:
* Amiga Hard Discs (40MB)

- * 1 Mb Memory
- * Epic
- * Rome
- * Myth
- * Trivial Pursuit
- * Amiga Text
- * Deluxe Paint III
- * 12 Months at home service.

£279.99

AMIGA CD 12

Plus the latest Hot CD software



If you are considering a console or a computer, the new Amiga CD leading edge technology, it's faster with more colours and has superior graphics to any other console on the market. As if that's not enough it's also cheaper and with the previous full motion video each year it's a hot product.

ONLY £289.99

with 3 great Games

CD 11 PACK

OSCAR DIGGERS WING.COM
MANDER AND DANGEROUS
STREET

PLUS
INDI EXCLUSIVE
FREE LEHMING



CUSTOMER CHARTER

INDA Direct Mail is original and very exciting. Before you buy and order you must first be confident that you will receive the product you've ordered and that the supplier will be there in the future, should you need them.

A small order purchase from INDA is a safe and secure decision, and here's why:

INDA is a wholly owned subsidiary of a public company over 15 years' experience of trading and specialising in this supply of computer products.

With a turnover approaching £30 million per annum, we have the resources and the purchasing power to offer you the best deal, deliver them next day nationwide and always be around when you need us.

SALES AND SUPPORT

The lowest alternative to our standard is to place your order with the nearest care and efficiency. All stock orders for sale in hand in stock, centrally at our head office. We are also able to provide for next day delivery, direct to your home or business. It is at any time we are out of stock your money will not be touched until the product is available (a point worth checking should you be tempted to purchase elsewhere).

CREDIT FACILITIES

INDA are now able to offer credit facilities to all our customers over £200. All credit facilities are subject to status and applicants must be over the age of 18.

If you wish to use a credit facility you may wish to see our terms and conditions or contact our credit facilities department. We are also able to offer credit facilities to cover repayments in the event of sickness or unemployment.

| MONTHLY | 3 MONTHLY | 6 MONTHLY | 9 MONTHLY | 12 MONTHLY |
|----------|-----------|-----------|-----------|------------|
| TOP COST | MONTHLY | MONTHLY | MONTHLY | MONTHLY |
| 100% | 22.22% | 22.22% | 22.22% | 22.22% |
| 100% | 22.22% | 22.22% | 22.22% | 22.22% |
| 100% | 22.22% | 22.22% | 22.22% | 22.22% |
| 100% | 22.22% | 22.22% | 22.22% | 22.22% |

ARE YOU WRITTEN QUOTATIONS AVAILABLE ON REQUEST

INDI TELESales
TEL: 0543 419 999 FAX: 0543 418079
9am - 7pm Monday to Friday
9.30am - 4.30pm Saturday.

AFTER SALES AND SPECIALIST SERVICE

All products are guaranteed for 12 months. Some products carry a 12 months at home service and repair guarantee (within limits). In the unlikely event that our product purchased from INDI arrives at your home faulty, we will collect from your home and replace the product completely free of charge.

As part of our policy of continual product development and refinement, we reserve the right to change specifications of products without notice. Please confirm current specifications at the time of ordering.

Prices are valid for month of publication only.

TEL: 0543 419 999 FAX: 0543 418079



The DMA Symbol

WHY NOT RING FOR A QUOTE, SAMEDAY RESPONSE. (SEE EXAMPLE)

Panasonic Quiet Colour Printing



We researched the colour printer market at great depth to find a colour printer good enough to cope with Amiga's powerful output, yet at an affordable price. We found the perfect answer in the amf KX-P2123 quiet printer. We then considered that if you were going to buy a Colour Printer you would probably need a quality word processing package to use with it. We found that too with Wordworth yet the retail price of £129.99 we thought that might be a little too expensive on top of your printer purchase. So together, with Panasonic we decided to give a copy of Wordworth free with every Panasonic printer. Of course your might be the fortunate owner of a Desktop Dynamic Pack or maybe the idea of word processing isn't for you. Once again feel free to reduce with the alternative of two great games. How's that for added value?

Panasonic KX-P2123



The new high performance Panasonic KX-P2123 24 pin Quiet colour printer offers leading edge quiet printing technology at an affordable price.

- Fast Printing Speeds 192 CPS (dual, 64 CPS LQ and 32 BLC)
- Colour Printing 7 colour palette (blue, red, green, yellow, spots, magenta, black)
- Quiet Printing Super quiet 43.5 db (the sound level most machine printers are typically in excess of 60 db)
- 7 Resident Fonts Over 132,000 glyphs using Super LQ, Courier, Pica, Bold
- 8 Fonts: Script, and Sans Serif Fonts
- 24PIN Disturbance Reduced HPD
- performance and high quality output
- 1 Year Warranty for total peace of mind

£219.99

FREE WORD PROCESSING OPTION

*WORDWORTH+GA COMPLETELY FREE!

WITH PANASONIC QUIET PRINTERS, the writers choice. The ultimate word processor for the full range of AMIGA computers. The graphical nature of WORDWORTH makes producing documents faster and easier with the enhanced printing fonts (including the Panasonic KX-P2123 colour printer support). CallPro spell checker and thesaurus, no other word processor comes close. *Without doubt this is one of the best consumer processors for the AMIGA. Today! (Amiga Format) **NORMAL RRP £129.99 inc. VAT**

FREE GAMES OPTION

FRONTIER ELITE II

You may choose from many different roles from explorer to assassin, from stockbroker to trader. Battle with pirates across a galaxy of different worlds, trade or smuggle goods or become a pirate yourself. The goal is to make the game completely open ended.

£29.99



The ultimate in space adventure Frontier is the important step forward for game enthusiasts. CU Amiga 97%

BATMAN RETURNS



A massive 7 disk program, from the first film simulation vastly different to the console version with vinyl scenes straight from the hit movie. Batman has returned in style.

£29.99

New Hot Title, indicated delivery 20 December

Panasonic LASER PRINTER

KX-P4410 LASER PRINTER



WORDWORTH+GA COMPLETELY FREE! WITH PANASONIC LASER PRINTERS. The writers choice. The ultimate word processor for the full range of AMIGA computers. The graphical nature of WORDWORTH makes producing documents faster and easier with the enhanced printing fonts (including the Panasonic KX-P2123 colour printer support). CallPro spell checker and thesaurus, no other word processor comes close. *Without doubt this is one of the best consumer processors for the AMIGA. Today! (Amiga Format) **NORMAL RRP £129.99 inc. VAT**

Once again INDI have joined together with Panasonic to offer all Amiga owners the most outstanding Laser Printer offer ever. You may now able to offer high quality, professional laser printing at affordable prices. We're also proud to have a copy of Wordworth and every Panasonic Laser Printer purchased (KX-P2123) free. Whether you are looking for a laser printer to handle word processing, DTP presentation or desktop graphic applications - the Panasonic range offers you the power to meet your requirements.

SAVE £50

INDI 320002

NEW LOW PRICES!

£499.99

inc. VAT

WORDWORTH+GA COMPLETELY FREE WITH LASER PRINTERS



ON-SITE WARRANTY

KX-P4430 LASER PRINTER



KXP - 4430

- Superprime (optimum resolution technology)
- 5 Pages per minute
- 144 Lines/Inch (II) Emulation, PCL 5
- 8 Scalable fonts & 28 storage functions
- Optional 2nd input bin (total print capacity 2 x 200 sheets)
- Optional memory expansion to 5.6 Mb (1 Mb cc standard)

SAVE £50

INDI 320003

NEW LOW PRICES!

£649.99

inc. VAT

WORDWORTH+GA COMPLETELY FREE WITH LASER PRINTERS

Panasonic PRINTER ACCESSORIES



- 1) PANASONIC AUTOMATIC SHEET FEEDER, Automatic sheet feeder for KXP 2180 KXP 2123 needs 6x A4 sheets. INDI PRICE £89.99
- 2) FRONT DUST COVER, Specific colour and quality dust cover for Panasonic KXP 2180 KXP 2123 printer. INDI PRICE £6.99
- 3) PRINTER STAND, 2 piece printer stand. INDI PRICE £9.99
- 4) PAPER PACK, 500 sheets quality A4 paper. INDI PRICE £29.99
- 5) CONTINUOUS PAPER, 3000 sheets 1 part feeding paper. INDI PRICE £19.99
- 6) PARALLEL PRINTER CABLE, To be used when connecting Amiga to Panasonic printers. INDI PRICE £8.99 (50 pin purchased and a ground)
- 7) PANASONIC COLOUR RIBBON, Colour ribbon for KXP 2180 KXP 2123. INDI PRICE £19.99
- 8) PANASONIC BLACK RIBBON, Black ribbon for KXP 2180 KXP 2123. INDI PRICE £9.99

SAVE \$\$\$ ON THE FOLLOWING ACCESSORY PACKS

- PACK 1 PANASONIC COLOUR RIBBON PACK**
Contains 6 colour ribbons for the KXP 2123 RRP £11.99 INDI PRICE £8.99 SAVE £3.00!
- PACK 2 PANASONIC RIBBON PACK**
Contains 2 black and 4 colour ribbons for KXP 2180 KXP 2123 RRP £99.99 INDI PRICE £69.99 SAVE £30.00!

- PACK 3 PANASONIC DELUXE ACCESSORY PACK**
Contains automatic sheet feeder, 2 black ribbons, 2 colour ribbons, 1 dust cover, 2 piece printer stand. RRP £169.99 INDI PRICE £139.99 SAVE £30.00

All £20 savings will greater discounts on ribbons than listed

TEL: 0543 419 999

FAX: 0543 418 079



EXPLOSIVE DESKTOP DYNAMITE DEAL FROM INDI!!

W DESKTOP DYNAMITE PACK



A1200 STANDARD FEATURES

*68020 Processor *PCMCIA Slot *2MB Chip RAM *
3.5" Internal Drive *AA Chips *Built in TV modulator
*Alpha numeric keypad *12 Months at home maintenance

FREE

* Wordworth AGA * Print Manager * Deluxe
Paint IV AGA * Oscar AGA * Dennis The
Menace AGA

£339.99
With 2 Great
Free Games



FRONTIER ELITE II

NEW GAME

You may choose from many different roles from sea dog to astronaut, from stock trader to trader. Battle with pirates across a galaxy of different worlds, trade or smuggle goods or become a pirate yourself. The goal is simple, a new and exciting game is completely open ended. **£29.99 FREE**



BATMAN RETURNS

NEW GAME

A massive 7 disk program the first true film simulation video different to the console version with vivid scenes straight from the film. Batman has returned in style. **£29.99 FREE**

New Hot Tide, indicated delivery 20th December

NEW DESKTOP DYNAMITE H.D PACKS

| | |
|-------------------------------------|----------------|
| 80 Mb Hard Drive Pack | £509.99 |
| 120 Mb Hard Drive Pack | £559.99 |
| 170 Mb Hard Drive Pack | £599.99 |
| 12 Months At Home Warranty from ICL | |

Desktop Dynamite / Panasonic Colour Printer Pack

The superb Desktop Dynamite Pack
PLUS
The Best Selling Panasonic KXP 2123 Quiet 24-pin
Colour Printer

PLUS
Two new cult games from Gametek Frontier: Elite II
and Batman Returns

£529.99

**SAVE
££££s**

WARNING

Some subscribers are fitting 3.5" drives to Amiga 1200. The Amiga was never designed to accept 3.5" drives and fitting one could result in loss of Commodore Warranty. Indirectly offer official 3.5" IDE drives officially approved by Wang, ICL and Commodore.

DESPATCH

All orders received by 12.00pm on Friday are despatched immediately. Delivery using our standard service. Because of the nature of the business, orders are available at a small surcharge. If you are not when we deliver, a card will be left at your home giving you a contact telephone number to arrange a delivery. Delivery charges for the involved immediately using our service. Cheque orders are despatched immediately on cheque clearance usually 14 working days from order. A delivery charge of £1.00 is added per item when orders include postage. **WE ALSO ACCEPT S.P.O. ORDERS (CITY/PROV) CARRIAGE CHARGE AT UK POSTAL RATES.**

HOW TO ORDER

BY POST - Simply fill in the enclosed form.
BY PHONE - please first specify when: 7 Night
Phone: 0543 419 999. Where your card will be
arranged by one of our INDI sales team. After 7 Night
each day your call will be answered by someone else. If
you would like to place an order leave the details in
hand including credit card. All orders subject to availability.
Please contact at time of going to print. They too help
and you call before ordering.

SEND YOUR ORDER TO:
INDI DIRECT MAIL
1 RIVINGTON INDUSTRIAL ESTATE,
EASTERN AVENUE,
LICHFIELD
STAFFS. WS13 7SF
Please send 1).

CU0194

1) _____
2) _____
3) _____
Price _____ * Delivery _____
I enclose cheque/ PO for £ _____
or charge my Access/VISA No _____
Expire:
Signature _____
Name _____
Address _____

Postcode
Daytime Tel

INDI DIRECT MAIL in partnership with ICL

We'll pick it up from your home - bring a buck in 5 days - give it 12
months on site warranty and that's just the beginning.

When the time comes that you just have to fit a new drive to your Amiga 1200 or 1200 it is important that your
handled by the EXPERTS.

ICL are a giant International Computer Manufacturing and Repair Company and have been chosen by Commodore
their authorized warranty company for Amiga products.

Through ICL the nationwide resources of ICL will guarantee that your Amiga is treated with the care and expertise
that it deserves.

But that is just the beginning, your new Hard Drive will be given a full 12 Months At Home Warranty cover. Yes,
there is a warranty product we will come to your home to fix it.

Or course when it's the point of At Home cover on your Hard Drive and not on your Amiga. So as part of the deal
ICL.

Compl. FREE

80 Mb Hard Drive Pack £509.99

120 Mb Hard Drive Pack £559.99

170 Mb Hard Drive Pack £599.99

Complete with 12 Months At Home Service through ICL

* Amiga 1200 must be in full working order

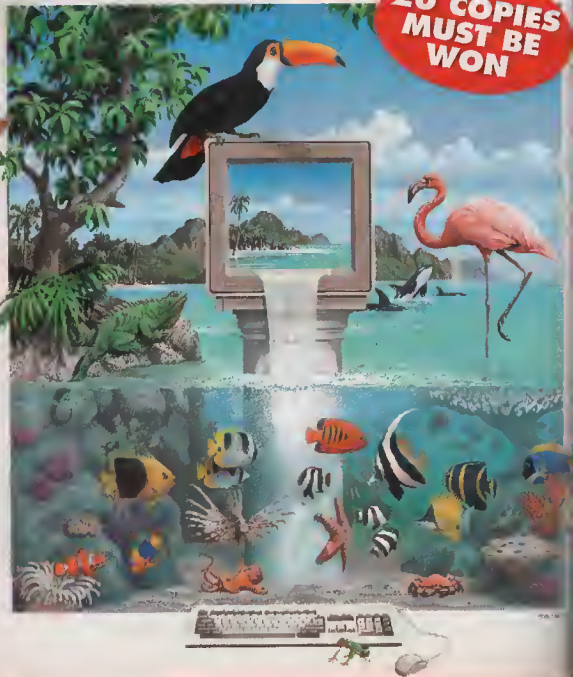
ICL is a member of the ICL Group of Companies. ICL Group of Companies

For as little as £39.99 ICL the major European computer giant are able to . . . the At Home service on most
new Commodore Products to a full 3 years. ICL are the main authorized Commodore Warranty Company and
can offer a variety of warranty options to suit all needs. Why not call for details.

TEL: 0543 419 999 FAX: 0543 418 079

BRILLIANCE

20 COPIES
MUST BE
WON



Earlier this year a graphics program from American developers, Digital Creations, stunned the Amiga-owning world. Offering incredible graphics power at an affordable price, *Brilliance* was immediately hailed as the most powerful art program for the Amiga by both press and public alike. Easy to use yet offering a myriad number of different tools and effects, the program has already racked up incredible sales in the United States and looks set to do the same over here.

Among its many features, *Brilliance* offers support for 24-bit images and the AGA chipset, has more tools than any other non-24 bit art package, includes unlimited undos and unlimited picture buffers, plus powerful new tweening options for fully automated animation. An ultra-flexible palette and gradient requester enables the user to define the smoothest colour ranges possible, and the program has more drawing modes than any other package currently available. On top of all this, *Brilliance* also offers a unique stencil draw mode for quick and easy definition and its image manipulation and image processing is incredibly fast offering a vast repertoire of options and tools.

No wonder, then, that *Brilliance* has been hailed as the ultimate paint package. And at only £149.95 (based on current exchange rates and a US price of \$249) the program represents exceptional value for money. What's even better news is that thanks to Digital Creations, we have 20 copies to giveaway. That's right, 20 complete copies of the Amiga's premier art package are up for grabs. To win a copy, all you have to do is answer the amazingly simple question printed below, and then get your answer down on the back of a postcard and send it to: Bloody Brilliance!, CU Amiga, EMAP Images, 30-32 Farringdon Lane, London, EC1R 3AU. Postcards should arrive no later than 28th February 1994.

**£3000-
WORTH OF
PRIZES UP
FOR GRABS**

1. Brilliance is published by which American-based company?

- A. Digital Creations
- B. Electronic Arts
- C. Microsoft

Dan Slingsby, Editor of CU Amiga, says:

'You can't wish for a better graphics program than Digital Creation's Brilliance. It's got everything an Amiga artist could want, plus more besides. For many years, DPaint ruled the roost when it came to supplying incredible graphics power at an affordable price, but no longer. Brilliance has assumed centre stage and is now the Amiga's number one art package. It's so hot you could make a cup of tea with it.'

RULES 1 The competition is not open to employees of Digital Creation or EMAP Images. **2** The closing date for entries is February 28th 1994. **3** The editor's decision is final and no correspondence will be entered into. **4** Say something nice to someone today



AMIGA GAMES

| | |
|---------------------------|-------|
| Amiga | 2.99 |
| A2700 Amiga (USA Version) | 21.99 |
| A2700 Amiga (UK Version) | 21.99 |
| Amiga Laser | 19.99 |
| Amiga Laser 2 | 19.99 |
| Amiga Laser 3 (A1200) | 22.99 |
| Amiga Laser 4 | 19.99 |
| Amiga Laser 5 | 19.99 |
| Amiga Laser 6 | 19.99 |
| Amiga Laser 7 | 19.99 |
| Amiga Laser 8 | 19.99 |
| Amiga Laser 9 | 19.99 |
| Amiga Laser 10 | 19.99 |
| Amiga Laser 11 | 19.99 |
| Amiga Laser 12 | 19.99 |
| Amiga Laser 13 | 19.99 |
| Amiga Laser 14 | 19.99 |
| Amiga Laser 15 | 19.99 |
| Amiga Laser 16 | 19.99 |
| Amiga Laser 17 | 19.99 |
| Amiga Laser 18 | 19.99 |
| Amiga Laser 19 | 19.99 |
| Amiga Laser 20 | 19.99 |
| Amiga Laser 21 | 19.99 |
| Amiga Laser 22 | 19.99 |
| Amiga Laser 23 | 19.99 |
| Amiga Laser 24 | 19.99 |
| Amiga Laser 25 | 19.99 |
| Amiga Laser 26 | 19.99 |
| Amiga Laser 27 | 19.99 |
| Amiga Laser 28 | 19.99 |
| Amiga Laser 29 | 19.99 |
| Amiga Laser 30 | 19.99 |
| Amiga Laser 31 | 19.99 |
| Amiga Laser 32 | 19.99 |
| Amiga Laser 33 | 19.99 |
| Amiga Laser 34 | 19.99 |
| Amiga Laser 35 | 19.99 |
| Amiga Laser 36 | 19.99 |
| Amiga Laser 37 | 19.99 |
| Amiga Laser 38 | 19.99 |
| Amiga Laser 39 | 19.99 |
| Amiga Laser 40 | 19.99 |
| Amiga Laser 41 | 19.99 |
| Amiga Laser 42 | 19.99 |
| Amiga Laser 43 | 19.99 |
| Amiga Laser 44 | 19.99 |
| Amiga Laser 45 | 19.99 |
| Amiga Laser 46 | 19.99 |
| Amiga Laser 47 | 19.99 |
| Amiga Laser 48 | 19.99 |
| Amiga Laser 49 | 19.99 |
| Amiga Laser 50 | 19.99 |
| Amiga Laser 51 | 19.99 |
| Amiga Laser 52 | 19.99 |
| Amiga Laser 53 | 19.99 |
| Amiga Laser 54 | 19.99 |
| Amiga Laser 55 | 19.99 |
| Amiga Laser 56 | 19.99 |
| Amiga Laser 57 | 19.99 |
| Amiga Laser 58 | 19.99 |
| Amiga Laser 59 | 19.99 |
| Amiga Laser 60 | 19.99 |
| Amiga Laser 61 | 19.99 |
| Amiga Laser 62 | 19.99 |
| Amiga Laser 63 | 19.99 |
| Amiga Laser 64 | 19.99 |
| Amiga Laser 65 | 19.99 |
| Amiga Laser 66 | 19.99 |
| Amiga Laser 67 | 19.99 |
| Amiga Laser 68 | 19.99 |
| Amiga Laser 69 | 19.99 |
| Amiga Laser 70 | 19.99 |
| Amiga Laser 71 | 19.99 |
| Amiga Laser 72 | 19.99 |
| Amiga Laser 73 | 19.99 |
| Amiga Laser 74 | 19.99 |
| Amiga Laser 75 | 19.99 |
| Amiga Laser 76 | 19.99 |
| Amiga Laser 77 | 19.99 |
| Amiga Laser 78 | 19.99 |
| Amiga Laser 79 | 19.99 |
| Amiga Laser 80 | 19.99 |
| Amiga Laser 81 | 19.99 |
| Amiga Laser 82 | 19.99 |
| Amiga Laser 83 | 19.99 |
| Amiga Laser 84 | 19.99 |
| Amiga Laser 85 | 19.99 |
| Amiga Laser 86 | 19.99 |
| Amiga Laser 87 | 19.99 |
| Amiga Laser 88 | 19.99 |
| Amiga Laser 89 | 19.99 |
| Amiga Laser 90 | 19.99 |
| Amiga Laser 91 | 19.99 |
| Amiga Laser 92 | 19.99 |
| Amiga Laser 93 | 19.99 |
| Amiga Laser 94 | 19.99 |
| Amiga Laser 95 | 19.99 |
| Amiga Laser 96 | 19.99 |
| Amiga Laser 97 | 19.99 |
| Amiga Laser 98 | 19.99 |
| Amiga Laser 99 | 19.99 |
| Amiga Laser 100 | 19.99 |

TOP 50 CHART

| | | | |
|----------|-------|-------------------------|-------|
| Amiga | 19.99 | G. Smith World Cricket | 19.99 |
| Amiga 2 | 19.99 | Grand | 19.99 |
| Amiga 3 | 19.99 | Gumbly 2000 | 12.99 |
| Amiga 4 | 19.99 | Hind Guts | 22.99 |
| Amiga 5 | 19.99 | James Park (A1200) | 18.99 |
| Amiga 6 | 19.99 | Johnnie's Football | 19.99 |
| Amiga 7 | 19.99 | Lords of Power | 19.99 |
| Amiga 8 | 19.99 | Major Boy | 16.99 |
| Amiga 9 | 19.99 | Major Machine | 16.99 |
| Amiga 10 | 19.99 | Major World 2 | 16.99 |
| Amiga 11 | 19.99 | Major Double Pack | 16.99 |
| Amiga 12 | 19.99 | Major Footballs (A1200) | 16.99 |
| Amiga 13 | 19.99 | Major Soccer 92/93 | 16.99 |
| Amiga 14 | 19.99 | Major Vs The World | 19.99 |
| Amiga 15 | 19.99 | Major Kid (A1200) | 19.99 |
| Amiga 16 | 19.99 | Major Rik | 22.99 |
| Amiga 17 | 19.99 | Major Top Gun | 16.99 |
| Amiga 18 | 19.99 | Major World 2 | 16.99 |
| Amiga 19 | 19.99 | Major Syndicate | 22.99 |
| Amiga 20 | 19.99 | Major Total Carnage | 16.99 |
| Amiga 21 | 19.99 | Major Theatre of Death | 19.99 |
| Amiga 22 | 19.99 | Major Terminator 2 | 16.99 |
| Amiga 23 | 19.99 | Major Unicorn 2 | 16.99 |
| Amiga 24 | 19.99 | Major Wandering | 16.99 |
| Amiga 25 | 19.99 | Major Wolf (A1200) | 16.99 |

BLANK DISKS
20.....£11.00
50.....£20.00
100.....£33.00
250.....£73.00

AMIGA PACK 1
Jimmy Whites
Nigel Mansell
Fat Y
£18.99

AMIGA PACK 2
Zool
Thunderstrike
Cloud Kingdom
Combo Racer
£15.99

Mortal
Kombat
£19.99

Jurassic
Park
£16.99

Alien 3
£16.99

Cannon
Fodder
£19.99

T.F.X.
£22.99

Lemmings 2
£14.99

Premier
Manager 2
£14.99

Zool 2
£14.99

Utilities

| | |
|--------------------------------------|-------|
| 3D Ray Avion | 22.99 |
| Amiga Compiler (Reg Avail) | 19.99 |
| Amiga Easy | 22.99 |
| Amiga Professional | 32.99 |
| Amiga Professional Compiler | 34.99 |
| Amiga Power 4 (1Mig) | 55.49 |
| Amiga Power 4 (2Mig) | 60.49 |
| Amiga Accounts 2 | 34.99 |
| Amiga Accounts 3 (Wingspread) | 29.99 |
| Amiga Office (Wingspread) | |
| AmigaSoft Diskettes - Disk Utilities | 33.99 |
| AmigaSoft Disk 4 | 29.99 |
| AmigaSoft Publisher | 29.99 |
| AmigaSoft Business Pack Games | |
| AmigaSoft Wingspreads: K Spread 2 | |
| AmigaSoft - K Data Database (1Mig) | |
| | 59.99 |
| AmigaSoft V 2 | 76.49 |
| AmigaSoft V 2 | 3.00 |
| AmigaSoft V 2 | 3.00 |

WIN A CD32!

Were a generous bunch here at CD Images, as so the taxman keeps telling us. We takes an ever bigger cut out of our meagre monthly paypackets. So even though most of us haven't been able to save up for one of Commodore's amazing new CD32 consoles yet (except for Dan, who probably bidded it through his expenses anyway!), we're going to give you all a chance to win one for yourselves. In fact, thanks to these lovely girls and boys at Commodore UK, we've got three to giveaway. 'Ya hoo! Just in case you've been living in Toyland for the last few months, let's take a closer look at exactly what's on offer. Apart from a rather sturdy cardboard box, you'll also find a CD32 nesting in between two huge chunks of polystyrene. This rather stylish lump of plastic is, in fact, one of the most powerful games machines ever invented! It's 32-bit architecture and AGA chipset means that the CD32 is set to revolutionise the way we play games. Why else would we have an exclusive CD32 section in the mag if we didn't think it was going to be a runaway success? With quality titles like Liberation and Microcosm soon to be available for the CD32, the only advice we can give gamesplaying wannabes is to rush out to their local software shop and buy one. Better yet, why not buy one in our incredibly easy compo?

To enter, simply study this mindbogglingly simple question printed to the right and send your answer on a postcard or back of an envelope to: Gamme a CD32 You Cheepskates! Amiga, EMAP Images, 30 32 Farringdon Lane, London EC1R 3AU.

The CD32 will be awarded to a winner chosen by a panel of judges. Winner must be 18 years of age or over. Winner must be a resident of the United Kingdom. Winner must be a resident of the United Kingdom. Winner must be a resident of the United Kingdom.

A. Chris Evans

B. Philip Schofield

C. Gordon the Gopher

**3 WHITE-HOT
GAMES MACHINES
MUST BE WON**

RULES

1. The competition can't open to employees of EMAP Images or Commodore, more's the pity.
2. Closing date for entries is 4th February 1994.
3. The editor's decision is final and no correspondence will be entered into.
4. Multiple entries will be checked in the bin, so be warned S. Sampson of Swansea!

AMIGA SPOTLIGHT ON...



MINDSCAPE

If you were asked to name one of the UK's most successful software houses, chances are Mindscape would be high up on your list. For the last five years, the Burgess Hill-based company has been going from strength to strength, thanks largely to strict quality control and a steady stream of original products.

Geoff Heath, Mindscape's head honcho, made his first forays into the computer games industry in 1982. Realising the explosive potential of computer games, he left his job in the music industry (where he worked with celebs such as John Lennon and Paul McCartney), and took up full-time employment with Virgin Mastertronic. Seven years later, in 1989, Geoff formed Mindscape International and the rest, as they say, is history. With hits ranging from *Legend*, *Moonstone* and *D/Generation* to *Knightmare*, *Captive* and the pioneering piano teaching system, the *Miracle Keyboard*, Mindscape merged with American-based outfit, *Software Toolworks*. In 1990, and have a cover looked back.

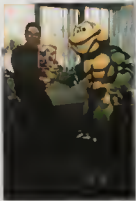


The man who started it all - Mindscape's Geoff Heath strikes moodily at the camera lens.

Since 1989, the number of people working for Mindscape has

grown from two to 80 people and profits have grown substantially, this year pulling in more than three million dollars. Having moved to Priority House in 1992, a superb new purpose-built complex in Burgess Hill, Mindscape have combined all its operations under one roof, including the manufacturing and distribution arms of its business. With product lines as diverse as *Speedball 2* on the *Gamaboy* and *Mavis Beacon Teaches Typing* on the PC and Amiga, plus a range of educational and reference titles, Mindscape now develop for all the main hardware platforms including Nintendo, Sega, Commodore and IBM PCs and compatibles.

From running the company from his dining room table in 1989, Geoff has built Mindscape up into a truly international operation with a reputation second to none...



Geoff Heath (he's the one on the left), meets a real-life Battletoad at a press launch for their soon-to-be-released Amiga title.

COMING SOON

Here's just a selection of some of the Mindscape games you can expect to be playing in the months ahead.

BATTLETOADS

First previewed more than a year and a half ago, the Amiga conversion of the hit coin-op has certainly taken its time making it to the small screen, but from what we've seen so far, the long wait is going to be more than worthwhile. This platform brawler has been a hit on every games machine it's been released on, and the Amiga version is looking especially swifty. Expect it to price itself as you seek to guide your lanky friends across obstacle-strewn levels tiled with all manner of bad guys.



PIERRE LE CHEF IS OUT TO LUNCH

Pierre is a well-known chef capable of cooking up some incredible dishes. The only problem he has is the ingredients often don't want to end up as the main course. If that wasn't enough he has an arch rival, Le Chef Noir, who is intent on ruining Pierre's reputation. Set over 48 enormous levels, the aim of the game is to collect all the ingredients Pierre needs for his famous dishes and keep Le Chef Noir away from his laider. Terrific fun.



FURY OF THE FURRIES

Imagine a crisis between Lemmings and Morph and you'll have a good idea what this game is all about. You control a Tiny, a small creature possessing a number of different powers. These enable a Tiny to swing about a level, shoot bombs, breathe underwater or eat its way through scenery. Each level is packed to bursting point with all manner of traps, ticks and enemy sprites and you have to use all the Tiny's attributes if you want to progress further in the game.



SEEK AND DESTROY

With *Cybernetix* and *Woody's World* already under their belt, Vision Soft return with a 360° top-down multi-directional shoot 'em up. In control of a state-of-the-art chopper equipped with a handsome array of hi-tech weaponry, your overriding aim is to blast anything that moves. Each mission throws up a deadly array of enemy 'copters, missile slots, gun emplacements and weapons dumps. There hasn't been a top-down blaster like this one since *SWIV* hit the Amiga all those years ago.



INTERNATIONAL

THEIR FINEST HOUR

You don't have to delve too deeply into Mindscape's back catalogue to find their best-ever game — they've only just released it! The follow up to Tony Crowther's award winning *Captive* game, *Liberation* is geared exclusively towards the CD32 and it's about as good as they come. Set in the far future, the sci-fi plot revolves around a government's attempt to frame innocent men for a series of gruesome murders. As Trif, the hero from the first *Captive* game, it's up to you to uncover this dastardly plot, set the imprisoned men free and, ultimately, bring down the corrupt government once and for all. Featuring high-sourced, texture mapped polygon graphics, digitised speech and CD-quality sound effects, *Liberation* is one of the finest role-playing games ever produced and is definitely the benchmark for future CD32 releases. If you want to find out more, turn to this month's CD32 Zone and read the full review which starts on page 60.



CD32 SUCCESS STORY

Mindscape are Europe's largest distributor of CD products, shipping an incredible three million units over the last three years, so it's not surprising to find the company actively supporting Commodore's new CD32 console. With three titles already under their belt (*D/Generation*, *Overkill* and the excellent *Liberation*), Mindscape are gearing up to release a steady stream of titles in the new year, including CD versions of *Alfred Chicken*, *Evasive Action*, *Genesra*, *MegaRace* and *Fury of the Furies*. Watch this space!



BEST PUBLICITY STUNT OF 1993



We've seen some wacky publicity stunts in our time, but Mindscape pulled off one of the funniest earlier this year when they entered their new platform star, Alfred Chicken, in the Chinschurich by-election. Dressing up one of their product managers in a large furry Alfred costume, the most amazing thing about the whole affair is that Alfred actually attracted 16 votes, honest-to-goodness votes and managed to force the rather more serious Rainbow Alliance party into last place!

MARIO IS MISSING

Everyone's favourite Italian plumber is about to make his Amiga debut! Arch-enemies, Bowser and the Koopas, have captured Mario and are attempting to steal most of the world's famous treasures. Taking the part of Luigi, Mario's brother, it's up to you to use your wits and beat the Koopas as you follow them through time. There are more than 19 different crises to visit in the game, and each missing treasure must be returned to its original home. Edutainment at its finest!



EVASIVE ACTION

Set for release in the first half of '94, *Evasive Action* is a one-on-one light combat game set in four different time zones: World War One, World War Two, the present and the future. Players can choose to either pilot the same planes in a dogfight or opt for entirely different models. In head-to-head encounters, players can engage in a deadly game of tag or simply shoot other planes out of the sky. With the emphasis on arcade action rather than a straight aim, this is great fun.



AMIGA GAMES CHECKLIST

Over the years, Mindscape have released a massive number of Amiga games, so for all you completists out there, here is their definitive games list.

- | | |
|--|---|
| <input type="checkbox"/> 4D Sports Boxing | <input type="checkbox"/> Knightmare |
| <input type="checkbox"/> 4D Sports Driving | <input type="checkbox"/> Legend |
| <input type="checkbox"/> Alfred Chicken | <input type="checkbox"/> Life & Death |
| <input type="checkbox"/> American Ice Hockey | <input type="checkbox"/> Missy Beacon Teaches Typing |
| <input type="checkbox"/> Balance of Power 1990 | <input type="checkbox"/> Missy Beacon Teaches Typing II |
| <input type="checkbox"/> Basketball | <input type="checkbox"/> Megafortress |
| <input type="checkbox"/> Blue Max | <input type="checkbox"/> Moonbase |
| <input type="checkbox"/> Captain Planet | <input type="checkbox"/> Moonstone |
| <input type="checkbox"/> Captive | <input type="checkbox"/> Overkill |
| <input type="checkbox"/> Chessmaster 2000 | <input type="checkbox"/> Paperboy II |
| <input type="checkbox"/> Chessmaster 2100 | <input type="checkbox"/> Shadowgate |
| <input type="checkbox"/> D/Generation | <input type="checkbox"/> The Ultimate Ride |
| <input type="checkbox"/> Des Boot | <input type="checkbox"/> Treason |
| <input type="checkbox"/> Days of Thunder | <input type="checkbox"/> Treason II |
| <input type="checkbox"/> Deje Vu | <input type="checkbox"/> TV Sports Baseball |
| <input type="checkbox"/> Deje Vu II | <input type="checkbox"/> TV Sports Boxing |
| <input type="checkbox"/> Fire Brigade | <input type="checkbox"/> Willow |
| <input type="checkbox"/> Fury of the Furies | <input type="checkbox"/> Worlds of Legend |
| <input type="checkbox"/> Genesra | |
| <input type="checkbox"/> Hanley Davidson | |

the cult classic collection

conquer this world



Commodore
Amiga
Atari ST

ZERO 87%

"Superb game
in the hack 'n' slash
genre." **

Commodore
Amiga
Atari ST



ACE 94%

"Core Design
takes a
graphic journey
into the
world of
Cybernetics." **



Commodore
Amiga
Atari ST
IBM PC

CU Amiga 90%

"...SEEN...
...some of the
best...
that you're likely
to see on the
Amiga. Great fun
and...
best..."



ZERO 88%

"The scrolling,
animation and colour
are all of a high
standard, but it's the
play that wins the day.
This is particularly true
of the two-player
version, but even for
one player, the action
is tough and just keeps
on going... War Zone
is an excellent arcade
shoot-em-up." **

make the space

16 bit quality at only
£9.99

stay where
its at

PRODUCTS TO LOOK OUT FOR IN 1994
WOLFCHILD & JAGUAR XJ220



corkers

TRADEWINDS HOUSE
69-71A ASHBORNE ROAD
DERBY DE22 3PS ENGLAND

CD32 ZONE

The only place for news and reviews on the CD32

FMV UNIT GOES ON SALE



The launch of Commodore's Full Motion Video (FMV) card for the CD32 marks the start of a new era in home entertainment. Okay, I apologise for being such a pompous old windbag and getting a bit carried away with the purple prose bit, but this new add-on for the CD32 really is a marvellous bit of kit, and will allow CD32 owners access to a wide range of pop videos and feature-length movies. Although Philips

managed to beat Commodore to the punch, and began shipping their FMV unit for CD-I a couple of months ago, it's good to see Commodore getting in on the act almost immediately. The price point, too, is encouraging - Silica (081 309 1111) are quoting a price of £199.

With the release of the FMV unit, the CD32 is now a complete home entertainment system, capable of playing games, audio CDs and blockbuster movies. This really could be the start of something big - imagine buying a single CD containing the Jurassic Park movie, computer game and soundtrack! That's still a long way off with present technology, but with some staggering advances in compression techniques over the last few years, who knows what the future might hold.

Commodore UK's joint Marketing Director, David Pleasence, is optimistic about FMV. I personally believe that the Video CD market is set to explode into life in the new year. Thanks to full motion video. I think it's going to be much bigger than the games market and will probably act as a catalyst of change for the entire entertainment industry. To back up his

company's optimism in FMV, Commodore are planning an advertising blitz to coincide with the module's launch towards the end of December. There will also be a special demo disc sent to retail outlets which will feature video footage of the Eurythmics live in concert as well as demos of Mirage's *Rise of the Robots* and *I.D.'s Inferno*. We're going to be very bullish about it all. It is a tentative innovation and it's going to revolutionise home entertainment.

We'll have a full review of Commodore's new FMV module next month.

Ben Silingsby - Editor



NEWS

NEW GAMES BUNDLE FOR CD32 ANNOUNCED



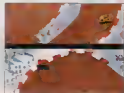
Commodore have just announced a new games bundle for the CD32. The new pack will still include *Diggers* and *Oscar*, but both Origin's *Wing Commander* and *Flair's Dangerous Streets* have been added to the line up. *Wing Commander* probably needs no introduction to long-time CU Amiga readers - it's a highly polished 3D space combat game crammed with a variety of missions and some spectacular 3D graphics. *Dangerous Streets*, meanwhile, is a new beat 'em up from Newcastle-based Flair in the mould of *Streetsfighter* and *Mortal Kombat*. Again, we'll have full reviews of both games in our next issue.

CLASH OF THE CONSOLES

We've got something rather special lined up for next month's CD32 Zone as we pit Commodore's CD32 against the likes of Atari's 64-bit Jaguar and the all-singing, all-dancing 3DG games console. Which one will win? Find out in *Thrity*.

SKIDMARKS ON CD

Just as we were putting this issue to bed, we received a review copy of Acid Software's new game, *Skidmarks* - and it's a beller. Even better, it's going to be available for the CD32 in the new year. And to top that excellent news, the Antipodean sci-fi war house are also going to include their excellent PD releases - *Insectoids 2*, *Defender* and *Zombie Holocaust* - on the same disc as an extra bonus.



BEST GAME EVER?!

You know it's a shame, but we thought we'd be the first to ask regarding Microline's excellent new CD32 game, *Liberation*. To say *Liberation* was pulled out all the stops on this one to produce an adventure of epic proportions for the full review, just the thing.

CHEAPER CD PRICES? DON'T YOU BELIEVE IT!

If you thought CD software was going to lead to cheaper prices, then think again. Although we are seeing some product appear at a budget-busting £4.99 (thanks to the likes of *Krisalis* and *Toam 17*), most games publishers are adopting £29.99 as their favoured price-point. Over the last year, floppy prices have also hovered near the thirty quid mark, and it appears that software houses are keen to make this new price stick, even though the manufacture of CD discs is considerably cheaper.

There are two main reasons why this should be so: increased development costs and a desire by the software houses to lessen the discount offered to wholesalers. Now, it's not as if the software is a premium product like Microsoft comes with a hefty price tag attached, as Psygnosis have been working on the game for almost two years and incurred considerable costs along the way - they've got to recoup them from somewhere! But when you see what is, in effect, shovelware coming out at the same price, then it's obvious

that some companies are only after a fast buck and don't really give a damn about nipping off the punter.

Cutting back the margins offered to wholesalers is another reason why games are appearing at inflated prices. Traditionally, distributors have been offered a discount on new product of approximately 55%. With the advent of CD, some publishers have been attempting to claw some of this discount back and charge a premium price. Unfortunately, all the poor wholesaler can do is either accept the new terms or refuse to take the product - not much of a choice when you've got the all-important Christmas selling period in full swing. Because the distributor's discount has been markedly reduced - some estimates put it at as much as 10% - these additional costs are then passed onto the retail end of the chain which results in higher prices all round.

So, while many people have been arguing that the lack of parity on CD will result in cheaper software, the exact opposite appears to be happening.

LIBERATION: CAPTIVE 2 ^{CD}



In the 28th Century freedom is a precious thing. Jon Sloan leaps forward to create a little liberation.

So far, we've only seen one game that truly uses the capabilities of the CD32. However, the game in question, *Microcosm*, may be a fun game and use loads of texture-mapped gobsmacking graphics, but, at heart, it's nothing more than a simple shoot 'em up. *Liberation*, on the other hand, may not be able to boast the same depth of graphic quality that *Pygnoid*'s game has, but it's light years ahead when it comes to gameplay. To try and the CD32 was designed for adventures: no more ink swapping, stunning graphics, CD sound: digitised speech - it has the potential to contain all these and

more. And *Liberation* very nearly has the lot. "But enough high-praising waffle; what's it all about?" I hear you cry (but you don't know my hearing was so good, did you?)

Life in the future must be very bleak. At least that's what virtually every sci-fi writer has told us since the genre came into fashion. And in that respect *Liberation* is no different. There's a police state, oppressive totalitarian Empire and a world-wide conspiracy where innocent men are being framed for murders they didn't commit. As Trill, the hero from the first *Captive*

game (and the man with the world's worst haircut - after our charitably challenged Editor that is), you decide to uncover this plot and set the convicts free. To complete the game you need to free the convict designated for that particular scenario. That may sound easy but, with over 4,000 possible variations, you'll soon realise that *Liberation* is going to keep you going well

into the new year.

Trill is a smart man. I mean: apart from discovering a global conspiracy, he's intelligent enough not to get involved personally in any of the dirty



Conversations are the lifeblood of *Liberation*. To hold one just walk up to a person and bump into them. An option screen will appear up with a list of responses. If the person is in a bad mood they may decide not to talk or even attack you.



Most public buildings and a few homes have video monitors. Log on to a set of them and you can access details about specific buildings. You can even hack into the police computer. Such unauthorized access is extremely dangerous though.



Video monitors are everywhere in *Liberation*, and a good reason for this is that there are a few directions to the locations that were mentioned in the news reports your friends have logged to their memory.

LIGHTS, CAMERA, ACTION...

One of the single most impressive features about *Liberation* is its opening sequence. This movie-style intro may not be what you'd expect from a CD opener (it's a live-action video, etc.) but it's still very striking indeed.

Settling around scenes includes it tells how Trill first uncovers the conspiracy and is

arrested by some of the most awfully stimulating music ever to grace a game or any medium. As a jaded junkie I've heard many a tune bubble from my Amiga's speakers over the years, but few have caused my heart to stop a beat like this one.

Anyway, on with the intro.



Trill is rescued by his rebel buddies after years of imprisonment in *Captive*. It's no wonder he's dead against the wrongful Empire system of things.



Sitting at home, bored to death, Trill decides to watch the news. Being as it is, the 28th Century he can change the background scenes and even the presenter a cut to the Joseph like them.



The main news report is based on a report of a local death from centre. Apparently there's a prisoner there who's supposedly murdered Councilor Oren.

Instead, he's disappeared into the mountains outside the city and left a team of four decide to look it out. Controlling them from his computer, Trill (us, you) has a perspective on the

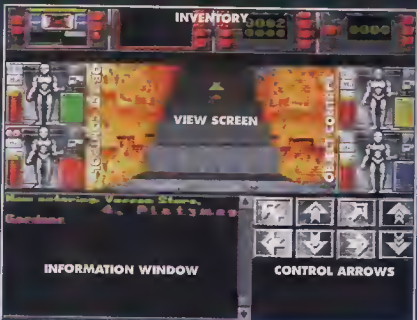
Three head-mounted video cameras allow you to view the light-sourced, texture-mapped, polygon-filled city in great detail. It's obvious that a lot of thought has gone into the graphic design and, although it's not that particularly lifelike, this stylized view of the world is impressive and, above all, workable.

The downside of all this texture mapping is your robot buddies do ambble rather ponderously along and the animation frames are few and far between. Tony Crowther, the coder, has borne this in mind and, if you plug a chip into a drone's head, you can alter the game parameters to your choosing.

This customisation led me to touch into all the major aspects of the game. You can alter the screen layout, the fonts and colours used, the make-up of your druids - in fact, pretty everything that a reasonably experienced adventurer would want to do.

Being druids, your team members have perfect memories and, boy, do they need them. The gameplay involves you tracking down the locations of the prisoner by talking to them, shooting and making contact with people across a huge city that is set out on three levels. So, any conversation you have, every time you uncover and finally address the find is stored in the druids' huge memory banks and you can review it any time.

Better still, one of your team has a notepad which can be programmed with addresses so there's no need for yards of graph paper. Besides, trying to minutely map a city as big as this would take you forever and you'd still not get it. I imagine trying to do an A-Z of the city, from scratch! To make things simpler the city is divided into zones and levels. The graphic sets for each are subtly different so it shouldn't take too long to find your



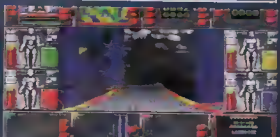
IN CONTROL

Controlling *Liberator* with the joystick is not a good idea. In fact, it's a lousy one. To really obtain maximum functionality from the team you need a mouse. Left and right clicks over the appropriate icons are all that's required. It's a good thing too since the control system is not the most user-friendly one to arise on Amiga. It takes you a little while to get used to where everything is and what those manipulating here or there buttons on the joystick at the same time is only achievable by the most dauntless players. To help you out here's a quick guided-tour of what a typical screen layout should look like.

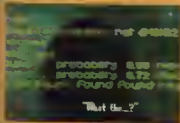
Way around.

The drawback about having a realistic city is that people move around freely and do normal, everyday random things. This makes your job doubly difficult: not only do you have to track down the captive's location but you've also got to find the people who're going to give you the clues to elude.

But, hey, that's where the fun is. Besides, the game constantly monitors your progress and, if it sees you floundering for too long in one place and not making any headway, it'll pop in a useful note or tip to guide you.



The city is realistically detailed. The city is quite interesting. Apparently this heavily garish colour is due to the depletion of the mouse layer.



Looking to investigate for himself, Trill goes to be the final police computer. Only to find that there's been an awful lot of earlier deaths of late and that the deceased had just been interrogated by a cop drone.



Find out what you can about the latest Secur-droids.

Trill decides to call his friend for help. Perhaps there's more to these druids than meets the eye. Trill asks him to crack it out. Suddenly, the computer warns him that his law is being bypassed. He tells his friend to meet him at the usual rendezvous.



This may be tough, as Trill goes down in his basement to defeat his third team for one more mission. And so the adventure begins as you journey off for more fun, mayhem and sporadic violence.



Shady characters hang around the lower levels. If you're not careful they'll mug you. Some, however, are willing to do business and will sell you everything from a suburban to a dread machine.

to your destination. The game isn't the only thing that's monitoring you, though. Your activities have been noted by the corporations which control the city and the police force, so you're being hunted by cop droids who should have been told to take you in dead or alive, unfortunately someone left out the 'alive' bit. Hang around at one location for too long, tap into the wrong police computer or discharge your weapons in the wrong place and you'll soon find yourself surrounded by heavily-armed robots out to tap your oil, the hard way.

You're not without defenses though. You start the game with a pre-set selection of reasonably powerful weapons; if you find an armourer you can buy new cartridges for them, substantially adding to your firepower. If you've got the cash, you can obtain completely new weapons with enough explosive charges to level a small city block. There are even certain weapons that are undetectable by the scanners located in the more important buildings, but they cost a packet. Try and get hold of them 'cos, believe me, you'll need 'em. To balance for this, the bigger the gun the larger the charge it takes off your robot's battery every time it's fired. Fortunately there are sockets hidden in specific dwellings which'll recharge the batteries.

By now, you ought to have realised that *Liberation* is a complex game and it'll take a good couple of weeks to make any decent progress on it. That's how RPGs should be! This game has a depth to it that I can't remember having ever seen on

an Amiga RPG. It's the first one of its kind to truly challenge the masterpieces you can get on a PC. I took it home with me one weekend and ended up losing two days. Like a lover I ate dinner with it, went to bed

with it and woke to find it beside me the next morning. Unlike a human version though there was none of that bad breath, smudged make-up and 'Oh my God, Why did I do that?'

feeling you usually get. I haven't got a problem to proposing marriage just yet but I'm almost there. Virtually every aspect of its construction deserves praise. The graphics, though not as realistic as I would have liked, convey the proper atmosphere none-the-less. For instance, the shady characters on the lower levels are shrouded in long cape things so that only their beady eyes show.

The soundtrack, too, is dynamic and changes tempo according to the



Takes my advice: don't pick a fight with a hawk security guard - they're very tough. Even if you beat one you still won't be able to use the computer for a protecting.

situation you're in: walk around to a slow-paced mellow tune and fight to an up beat dramatic track - brilliant. Best of all there's digitised speech that, despite at times being repetitive, makes you feel you're really holding a conversation with the characters.

The storyline will keep you hooked even when you feel you're stuck for what to do next. Even then you won't be stuck for too long - something will turn up. If not a clue then a hulking great cop droid intent on spilling your coolant.

Liberation is a game and a half. It's long, deep and satisfying - a bit like a good cigar (what else did you think I meant?).

In fact, the only question left on my mind is 'Will you marry me?' ☺

MINDSCAPES: £34.99

MINDSCAPE, PRIORITY HOUSE,
CHARLES AVENUE, BURGESS HILL,
W. SUSSEX RH11 5PD.

RELEASE DATE:

GENRE:

TEAM:

CONTROLS:

NUMBER OF PLAYERS

OUT NOW

MPE

BYTE ENGINEERS

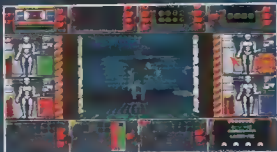
PADHOUSE

1

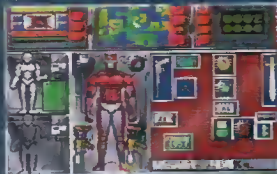
GRAPHICS *****86%
SOUND *****90%
LASTABILITY *****92%
PLAYABILITY *****90%

“Loads of game for your money. Don't miss out on this one.”

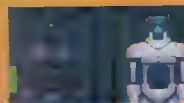
OVERALL 90%



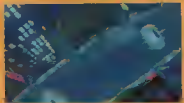
People don't see you unless you take them unawares and are left to shoot you for just being there. Don't be busy in search: just right-click on the shield's energy unit to fire whatever weapons to at hand.



Your backpack works on a second circuit. Actually your stock can carry an extra unit so you can fit in droids. It's pays to pack well.



The droids awake and immediately have for the primary it use up. They're an worthless bunch but useful in a score.



It'll leads his vent up with his droid and heads out into the hills to the rendezvous.



And with enough endurance can run go down the to the Empire and start on down for good.”

There his worst fears are realised. His friend informs him that Cop droids are going haywire every time there's a magnetic storm. The surviving corporation is covering it up by framing innocent man - T10 sets out to free them.

AMIGA

"...BY THE TIME I REACHED THE SCENE, THE DISKS HAD BEEN 'RUBBED OUT'... THERE WAS ONLY ONE THING TO DO. CALL SIREN SOFTWARE FOR EXTRA BACKUP!"

WIN
1000

Unlike other disc backup utilities, X BACKUP PRO is totally automatic and extremely simple to use. It is fully compatible with ALL AMIGA computers.

- Will backup virtually any disc onto another disc.
- Full hard disc backup.
- File management facility.
- Optimises, formats, repairs, verifies.

Includes the 'AUTOSWITCH CYCLONE' cartridge. Simply plug into the external disc drive socket at the rear of the Amiga, and plug your external disc drive into the back of the CYCLONE cartridge for unbeatable disc backup power. An external disc drive is required for use with the CYCLONE Cartridge. These are available from us priced £34.99.

FULL MONEY BACK GUARANTEE.

If you can find a more powerful disc backup utility, we will give you your money back.

BACKUP PRO

X-Backup Pro is the most powerful disc backup utility available for the Amiga, BUT DON'T TAKE OUR WORD FOR IT...

CU Amiga Magazine, July 1993

"IT'S UNBEATABLE."

'a veritable bargain at just £39.99'

Amiga Computing, September 1992

'fast, flexible and reliable'

Amiga Computing, September 1993

£39.99

+ £1 postage & packing

THIS PRODUCT MUST NOT BE USED TO INFRINGE COPYRIGHT.

A1200 1200 4mb memory expansion with clock New state of the art surface mount design. Now includes FPU socket. 32 bit wide auto configuring FastRAM. Zero wait state allows the A1200 to run at full speed. Increase the speed of this computer by 215%. Battery backed clock keeps the correct time and date even when the A1200 is switched off.

£179.99

Simple drop-in installation.
66881 FPU **£34.99**
66882 FPU **£79.99**

**SUPERB
VALUE FOR
MONEY**

Soundblaster

The SOUNDBLASTER is a 10 watt stereo amplifier that comes complete with high quality 3 way speakers, power supply and FREE STEREO HEADPHONES! The SOUNDBLASTER adds a new dimension to games playing, imagine stunning stereo sound effects, crystal clear samples and thrilling stereo tunes. The SOUNDBLASTER also boosts games playability! The speakers are powerful 50 watt 3 way units featuring a 3" woofer, 2" horn and a 1" tweeter to provide a powerful crisp sound

£44.99

WE'VE GOT WHAT YOU NEED

SPECIAL OFFER

Deluxe disc drives

Whisper quiet. Sleek design. Suits any Amiga. Cooling vents. Sleek, high quality metal casing. Quality Sony-Citizen drive mechanism. On/Off switch and throughput at the rear of the drive. Full 880k capacity. Long reach connection cable.

**CYCLONE
COMPATIBLE**

£54.99

Order **NOW** for immediate despatch
Tel. 061 724 7572 Fax 061 724 4893

Timesales open 9am - 6pm Monday Friday

Access/Via assigned

Send a cheque/Postal order or credit card details to:

**Siren Software, Wilton House, Bury Rd,
Redcliffe, Manchester M26 9UR England**

Government, Education and PLC orders welcome
All prices include VAT at the current rate. Postage and packing will be charged at £3.50 per order (U.K.), £7.50 Europe. £12.50 rest of world.
Please note that 5 working days must be allowed for cheque clearance. Immediate clearance on Banking society cheque or Bank Draft.

SIREN SOFTWARE

Wilton House,
Bury Rd,
Redcliffe,
Manchester
M26 9UR
England

HARD DISC DRIVES

65mb **£174.99**
120mb **£214.99**
170mb **£259.99**
210mb **£299.99**
250mb **£299.99**

Add £289.99 for A1200 fitted with above drives
Our 2.5" hard drives for the Amiga A1200/A600 offer speedy access times and come complete with fitting cables, screws and full instructions. They are pre-formatted and have workbench already installed for immediate use. Fully guaranteed for 12 months.

Free fitting service to personal callers

**IMPROVED
SOUND
QUALITY**



ATTENTION ALL CREW !

REPORT TO MAIN BRIDGE



STAR TREK™ 25TH ANNIVERSARY



"I've a funny feeling we've
been through this before."



"It appears to be a most
fascinating game. Captain."

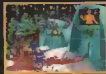
LOOK FOR THE
LIMITED EDITION
COLLECTOR'S PACK
INCLUDES FREE
MOTION PICTURE
VIDEO



"It's a game Jim, but not
as we know it."



"THE TIE IN OF THE CENTURY. HYPERBOLIC AND CHALLENGING ADVENTURE" - CU MAGAZINE.
AVAILABLE ON AMIGA A1200



Software © 1993 Interplay Productions Inc. All rights reserved. STAR TREK™, TM, and © 1993 Paramount Pictures.
All rights reserved. STAR TREK is a registered trademark of Paramount Pictures. Interplay Productions Authorized Game.

Interplay

Interplay Productions Ltd.
One Sun St. Sunnyvale
Main Road, Sunnyvale, CA 94086
Tel: 415 339 9999

Shovehware this might be, but it is damn good shovehware all the same. Already available on the Ati 2600, Overkill is modeled on the same frame made hot of yesteryear, *Defender*. Although the new game has been jacked up with a layer upon layer of scrolling parallax backgrounds and a ship under your control can pick up a number of power-ups to increase your chances of success, the basic gameplay is almost exactly the same as the aging coin-op classic.

The idea behind Overkill is to drop on a team of assault marines onto a planet's surface in an effort to destroy a number of valuable Tithonium crystal deposits which an enemy race is trying to get their hands on. Each marine has an explosive charge which they can attach to a crystal in order to blow it up once they've achieved this objective. It's then up to you to lead the assault crack back to the waiting mothership, pick them up and return them, and then transport them to the next crystal to be blown up. While your men are taking care of the crystals, you've got to defend them by blasting any alien attack ships out of the stratosphere. This is of course, easier said than done, as the aliens have

LUNAR-C

Not content with giving you one game on the disc, Nintendo have included an extra game as a special bonus. And what a game it is! Well, actually it's a fairly direct copy of Team 17's *Project K* game - but then T17's classic blast was highly derivative itself!

Lower C is a horrendously swirling sheet 'n' up that comes complete with power ups and the usual array of mauling alien bugs and boids. Things start off classily, thanks to your ship's poor response, but once you've managed to blast a few aliens and pick up the power-ups they leave behind, you'll be able to improve both the speed and handling of your craft as well as belt-top-an-all manner of weapons and armaments.

The most annoying thing about the game is some of the rather tiresome attack events which appear once the crest of an enemy ship is really close to give you much of a chance. Apart from that little niggle, however, this is a brilliant blast. The game's designers have also come up with a novel way of representing the number of lives you have left. These are shown as a power bar which means that you can get hit a number of times before exploding and dying. Rather than exploding on hitting a wall for your first (or, unfortunately, on screen) this helps keep the pace of the game at a hectic pace. **Adaptive: 4/10**

OVERKILL/LUNAR-C

E29.99 - MINDSCAPE - 0444 482545



a number of tricks up their sleeves, not least of which is the ability to mutate into even more hideous and dangerous opponents once they've digested the nearest Trilithium crystal.

Able to fly your ship either left or right, across a smoothly scrolling landscape, it's best to use the smat on screen radar to locate the alien nasties and then zoom off to give them a bit of nuclear armageddon. After level one, things get decidedly more difficult, with fiercer attack waves and many more aliens to slaughter. Everything looks extremely lush - this is except for the abysmal



main sprits. Both your ship and detachment of mannes are spindly looking things which detracts from what is, otherwise, a great looking game. Scoundwise there's a thumping into track which really sets up a great atmosphere, and the In-

game sound effects are just as spooky.

Overall, *Overkill* is a very polished game which makes full use of the 256 colours at its disposal. The CD32's joystick controls are responsive, there's lots to do and the action doesn't relent for a minute. Turn down the lights, crank up the volume and get ready for some serious blasting.

84%

ALSO AVAILABLE

A lot more going to prove a sorry lot of top-notch CDSC games were occurring through the office (which is particularly difficult as we're on the fourth floor down!).

Have a great time with you!! Available to you in your
local software conversion right now - Sell software and much

ZOO
£29.99 GREMLIN OUT NOW



This one needs no introduction! Everyone's favorite Spidee Man from the Nth Dimension joins his OMA once more to punch the evil work of Krol and his assistant, Master Black.

Sat over seven levels of anarchic mayhem, *Zombi* fills the player's mind all

to Street World in its debut, musical notes and words.



**NIGEL MANSELL'S
WORLD CHAMPIONSHIP
£28.99 GREY IN OIL NOW**

Get Now
Secure a Grand Prize
in your business
thanks to this playable
Formula One racing game
from Gimmie!

Featuring enhanced graphics, school-themed FX engine sound effects and real-time scoring from Nigel Maxwell himself, the game has more

long way since its floppy beginnings. We'll be taking Algonquin's World Championship for a full test drive next month.



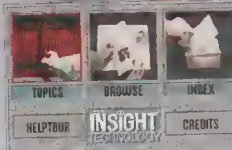
INSIGHT TECHNOLOGY CD32

£33.99 - OPTONICA/COMMODORE - 0628 770088

Mention multimedia to most people and they'll either look at you as if you've said a dirty word or just fall asleep as you speak (which happens a lot to our News Editor, Tony Dillon, funny enough - Ed). It's not that multimedia is boring or anything, it's just that no one really seems to know what it is or what it's supposed to do.

For the record, multimedia is 'the integration of graphics, video, sound and text under the control of a computer in order to perform a specific task'. I know this because it's written in my computer dictionary, but it hardly makes the pulse quicker, does it?

However, where multimedia gets really interesting is the way in which sound, video, graphics and text are combined. Over the next few years, we're in for something of a revolution in the way that information is presented, and it's all thanks to our good friend multimedia. For instance, instead of pushing around a shopping basket in a supermarket the size of Wembley Stadium, imagine being able to browse through a virtual reality shopping mall via your TV, picking out the goods and services you need at the click of a button.

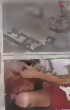


Another application could be the interactive travel agent where a prospective holiday maker sits in a CD disc into their player, selects a choice of holiday destinations and settles back to watch an audio-visual presentation of each area. There could also be a number of more specific text menus listing anything from the best local clubs and pubs in which to swing your pants to details of where to find a childminder to take care of the kids while you have a good time.

Another area where multimedia could make a big impact is in education. There's nothing more boring than a book full of text, especially if the subject's something that's difficult to get to grips with in the first place. Realising the possibilities presented by Commodore's new CD32, Optonica have come up with a multimedia guide to the way things work. *Insight Technology*, the first in a series of titles, is a fictional title which manages to combine video, audio and text to provide a truly exciting and informative technology reference disc.

Taking its lead from everyday objects, Optonica have set out to

The development of the electronic video game has been little short of an electronics revolution. Since the introduction of the first system for the home, PONG, an electronic tennis game invented in 1972, each new video



On the 12th April 1981 the very first space shuttle was launched, beginning a new era in space transport technology. The U.S.S. Columbia became the world's first reusable space vehicle. About the same size as a GEC



explain how each object works. From guns and video games to 'water-whorls, robots and hull copiers, the disc is an intriguing look at technology at work. The choice of subjects is presented in an alphabetical list which can be scrolled through until the desired option is highlighted. Once you've decided on a topic that interests you, merely press a button on the control pad and the relevant entry will be displayed after a few seconds disc access.

Each entry consists of descriptive text, annotated diagrams and a number of digitised pictures. These

also a 10 second narration accompanying each topic with some sequences including some primitive animations using colour cycling. Although the sound quality of the narration is not brilliant, it is easy to understand what's being said. My only complaint is that there's not enough of it. Picture quality is excellent and it's obvious that a great deal of care has been taken in the photography and subsequent scanning of each object.

A number of entries are also accompanied by video footage, complete with sound. Occupying roughly 1/10th of the screen, these last for approximately 20 to 30 seconds. Although it's nice to watch these add-on clips, the choice is a little inappropriate at times, suggesting that Optonica weren't all that lousy in what they decided to include. For example, on a section about submarines, all you get to see are some dials and machinery which might be from the engine room or bridge of a submarine, but it's difficult to tell. Surely some exterior shots of a submarine plugging the ocean depths would have been more appropriate in this instance!

Overall, Optonica's *Insight Technology* is an interesting addition to the growing numbers of CD32 releases. Although the number of topics isn't vast, there's enough here to stimulate both adults and children, and it's the ideal tool for learning how everyday objects work.

91%

The development of the electronic video game has been little short of an electronics revolution. Since the introduction of the first system for the home, PONG, an electronic tennis game invented in 1972 each new video



PERIHELION

A vision that the Psyonic Council just couldn't ignore. A force so mighty it could rip the very foundations of Perihellon from the earth. And Project Awakening is born... Its name is whispered only in hushed voices; its form is a mystery straight from a nightmare. Choose your race, your powers, your epelle and begin the quest against the most ancient and terrible power the universe has ever seen.

Perihellion is an incredible cyberpunk RPG set in a world of cruel and dangerous mystery.

Available on the AMIGA now.



PSYCHOSIS

[illegible]

Figure 7 (continued)

10.00 PRODRM 11.86 SPANWER - 12.49

FOR MORE LEFT WINGS

SCREEN SCENE

Phew, it just gets hotter and hotter! It's nice to see software houses are pursuing Amiga excellence into the new year. If you don't believe us, just check out *Brian the Lion* or *Beneath a Steel Sky*.

- 70 ALLO ALLO
UNIVERSE
- 71 GENESIA
- 72 ROBINSON'S
REQUIEM
- 73 KING'S QUEST
- 75 THEME PARK
- 78 BENEATH A STEEL
SKY
- 83 BRIAN THE LION
- 83 FURY OF THE
FURRIES
- 86 CANNON FODDER
- 89 ZOOL 2
- 91 MAGIC BOY
- 91 JETSTRIKE
- 94 BODY BLOWS
GALACTIC
- 94 ALIEN BREED 2
- 97 VFM - TOKYAK
THE WARRIOR
- WAR ZONE
- CHUCK ROCK
CORPORATION
- SUBURBAN
COMMANDO
- DINOSAUR
DETECTIVE
AGENCY
- COMBAT
CLASSICS 2
- 102 VAMPIREKA

A CU Screen Star is for games scoring 85%-100%. It's a game gets one of these, it'll be of lasting quality and you can rest assured that if you decide to purchase it, you won't be wasting your money.



85% and a game's worth a Superstar. We hardly throw them around, but if a game gets one it'll be completely outstanding.



1994 is on its way, and the Amiga marches on. First Impressions takes an early look at four of next year's releases, and starts to wonder if things are going to be even better in 1994 than they were in 1993.

ALLO ALLO ALTERNATIVE

THE GAMEPLAY: Based on the appalling TV show of the same name (which, incidentally, starred my old maths teacher as a British arman), you play small scale owner, Rene, in occupied France as he plots to hide the painting of the Italian Madonna with the big boobies. The TV show is packed full of all the usual situation

FIRST



comedy humour - running jokes, speech impediments and plenty of 'oh crony' situations, and so is the game. A platform game in essence with just a little bit of problem solving thrown in, it looks a fair bit more challenging than other efforts.

WHAT'S NEW: Not a hell of a lot, really, apart from the fact that the

items you collect can be used either as weapons or bribes, depending on who you give them to. Throw a rose at a German guard, and he'll collapse. Throw it at Yvette and she'll hitch up her skirt, freezing all the guards nearby. Whether or not this kind of originality is strictly necessary, or whether it adds to the game remains to be seen.

BEHIND THE SCENES: The game has been coded in house by the same team that have done, well, all the recent Alternative games, such as *Suburban Commando* and *Huckleberry Hound*. That's it, really.

FIRST IMPRESSIONS: Not too bad, as it goes. Although a fair chunk of Alternative's recent licence attempts have been a little below par, this one looks like it might be the business. Although simply presented (who the title tune is the most awful accordion tune ever heard), there might just be enough of a puzzle element to make it addictive.



UNIVERSE

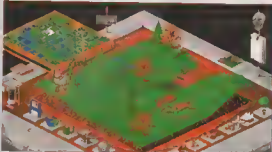
THE GAMEPLAY: A graphic adventure that revolves around the plight of an ordinary lad who finds himself ragged into another dimension. After playing with his Uncle's inven-
+n. Bons gets thrown into a futuristic parallel universe. Once there, he becomes involved in a plot being about the downfall of the VII Emperor Neamos. Universu



IMPRESSIONS

GENESIA

MINDSCAPE



THE GAMEPLAY: This is a tough one to describe. Take *Sin City*, *Sin Farm* and *The Settlers* and mix them with *Populous* and you're somewhere near the mark. *Genesia* is to all intents and purposes a war game from gears roots. Not only do you need to take an army and march them across the moors to battle, you have to actually build a civilization for them to defend. Oh yeah, add a bit of Civilization while you're at it.

WHAT'S NEW: The recruitment mode. As your settlement grows and you till the land, add buildings and try to build a working economy so travelers through your village may decide to settle. If they do, you can then decide what you actually want them to do, from learning to architecture (designing and erecting the buildings). The entire community can be shuffled around into different jobs

at any point, so it's fortunate you have a village populated with such multi-talented people.

BEHIND THE SCENES: *Genesia* has been brought to you by those lovely French people who make up Microids, responsible for possibly the worst motorbike racing games ever. Let's hope that they do a better job of the kind of management game. Incidentally, this is their first product for Mindscape after making the switch from Daze Marketing.

FIRST IMPRESSIONS: *Genesia* looks like it's going to be a very corn-pickled game indeed. With hundreds of different estates to watch, you're going to have your work out just trying to keep your colony running, let alone watch out for the opposition. This could be one to watch. Look out for the full review next issue.

was originally intended to be the sequel to *Curse Of Enchantia*, but it's grown so much during development that it has simply become a follow-up.

WHAT'S NEW: A hell of a lot. There are some 3D-rendered animations to keep everything moving along, which is fairly unusual in a graphic adventure. Even stranger are the arcade sequences, such as a full Outrun-style car driving section.

Probably the biggest achievement is the SPAC 256 colour system which allows you to view the stunning backdrops in 256 colours on any machine, including non-AGA machines! (What - Ed)

BEHIND THE SCENES: The game has been coded by the same in-house team that came up with *Curse Of Enchantia*, and they have taken the two years' experience to add reams of text to the game to pad out the storyline.

FIRST IMPRESSIONS: Very good. The game looks incredible, and what we've seen of the design shows that it's at least every bit as good as *Curse Of Enchantia*. It's a nice to see that not everyone is trying to emulate Lucas Arts titles. With its original sections and absolutely stunning 256-colour emulation (this looks like it could be one of the hottest games of next year

ROBINSON'S REQUIEM

ALIMARILS



THE GAMEPLAY: *Robinson's Requiem* is what is known as a survival simulation. We are talking no ordinary adventure here. You are government agent Robinson, stranded on an alien planet with nothing but a small medical kit and a chest-mounted computer for company. From this point, you have to escape from the planet, and the only way to do that is to stay alive. Running over three square miles, you have to stay fit and healthy - and unarmed if possible.

WHAT'S NEW: Just about everything! An enormous game, all displayed in true 3D, using a brand new texture-mapped polygon graphic system. Objects are lit or shaded according to distance and position, using a ground shading technique similar to that used in the PC light gun *Comanche*. All

weather and time systems are simulated, as are the functions of the human body. Wow.

BEHIND THE SCENES: What else would you expect from Simen? They've taken the *Dungeon Master* style of game as far as it can go with *Jehar 2*, so now they're adding that little bit more freedom. They've been working on this one for quite a while, coding it in tandem with *Jehar 3*.

FIRST IMPRESSIONS: With only a bit of screen-shake and a rolling demo to go on, I am very impressed. The amount of effort that has gone into just the graphics, with all scenes rendered in every possible direction in

3D Studio and the texture-mapped terrain it looks fantastic. Some of the polygon animation is staggeringly real, and the idea of such a natural and involving adventure game is making my synapses itch. Roll on February!





It is situations like this that have caused problems for Revolution. An injury involving two other players have been handled by hand.

KING'S QUEST VI

Sierra aren't going to write King's Quest VI. Boo! Revolution Software are doing the conversion for them! Hooray!! Tony Dillon laces up his pixie boots.

The King's Quest series will always have a special meaning for computer games fanatics. Widely regarded as the games that put Sierra on the map, the branding became so popular that it paved the way for other popular Sierra series such as *Space Quest* and *Pollack Quest*. When it comes down to it, though, nothing can beat a good King's Quest title. That probably explains why there was such waiting and gnashing of teeth when Sierra finally announced that they had no plans to release an Amiga version of *King's Quest VI*.

From that point, the story-in-basic form goes something like this: Charles Cecil, bespectacled boss of Revolution Software called Sierra

and said: 'Well, if the Amiga conversion for you.' 'Oh, all right,' replied Glenn. Next time you read that development house is 'in negotiation' or are 'currently speaking to,' you'll know it's all stuff and nonsense.

Anyway, from that point on, Sierra supplied Revolution with the source script for the game, and then it was down to coder Jeremy Salt to piece the rest of the game together.

Notre said source script, not source code. Jeremy, who is new to the world of computer games, having spent his career so far working in the aircraft industry (he wouldn't be more specific, so he probably wasn't doing anything exciting like flying an F-15), had to come up with a complete frame for the game. And then

lead that script in, which tells the program what to do in specific situations. 'In a lot of ways, it's exactly the same as a text adventure. The only difference here is that we are also controlling the animations,' explained Jax in his usual, succinct way.

In many places, the conversion is nothing more than a straight port. The script itself is text-based, and can be added to any control routine, and all graphics come supplied. Why is it taking so long to actually convert it then? It seems the problems come from the graphics themselves. To begin with, everything is being

Maps: 1:250,000, showing only land in eight directions.



On each of the islands your aim is to get through the north gate.

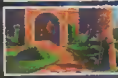
locked down to 32-colour mode, and with the backdrop and aerials using separate palettes, the file eating really hell for all involved. As a result, most of the animation sequences have been stripped to their basic ingredients. A winged man, who originally had 13 frames of animation, now runs quite smoothly with only six, for example. Where the original had frames that had the character soliloquising his head, or looking around, the Amiga animation only has him lying, looking dead ahead.

There are all sorts of problems encountered when animating the graphics across. All the short spot animations have to be recoloured by hand – with your character shakes hands with another, for example. At the point where the two sprites meet, both are removed from the screen and a small animated sequence of the two of them shaking hands is played. All these add up to a huge number of sprites, and recolouring is a time-consuming job.

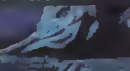
At the end of the day, though, the game looks stunning. Anyone who has played the PC version will already know what a stunning adventure it is, and if these screenshots are anything to go by, the Amiga version will be just as good. Look out for a full review next month. **CD**

EVERYTHING YOU KNOW IS WRONG

N stands to reason that a 32-colour image can never look as good as a 256-colour image, doesn't it? Wrong! A carefully selected and subtitled, 32-colour image can look every bit as good as those screenbabe ones will finally. On one side we have the original PC screenshots and backgrounds, and on the other the 32-colour Amiga shots. You have to admit, the difference is minimal, which must give welcome relief to all the non-Amiga owners out there. Don't worry guys, you're not going to get forgotten in the storm!



Every time you do something right you have a measuring 'stick'.



MAIL ORDERS

For the magazine (checked in first column) are only available by direct mail

| DESCRIPTION | C U | PRICE | TOTAL |
|----------------------------------|-----|----------|-------------|
| Professional Football Masters V4 | | 24.95 | |
| P.F. M. Editor V4 | | 12.00 | |
| Stable Masters V2 | | 24.95 | |
| Grand Horsemaster (RSP \$39.95) | | 75.00 | |
| Under Masters | | 24.95 | |
| World Cup Cricket Masters | | 24.95 | |
| Wrestling Masters | | 19.95 | |
| CARD NUMBER & EXPIRY | | F.R.O.F. | GRAND TOTAL |
| TELEPHONE | | | |

We also stock:

| | |
|-----------------------|--------------|
| FRED-FISH | 1-890 |
| T-BAGS | 1-57 |
| L.S.D. docS | 1-39 |
| SCOPE\$ | 1-220 |
| ASS455IN | 1-115 |
| Glamour\$ etc. | |

EDUCAT

- [illegible]

STX INFO: Give info on your Account up, check it out.

FREE
COMPETITION
Prize entry with every online
monthly price draw (February)
Place three customers under
picture out of the show and win

1st PRIZE
Cubruan Disk Drive
2nd. 40 PD Disk Voucher
3rd. 25 PD Disk Voucher

STX INFO: Give info on your Account up, check it out.

BRILLIANCE





**ONLY
£149.95**

**THE NEW STANDARD IN AMIGA PAINT
AND ANIMATION IN MILLIONS OF
COLOURS.**

Brilliance is now - leaving DPaint trailing in its wake - the best art package available for the Amiga. It's very hard to express why I'm so taken by Brilliance, there's just a feeling of 'rightness' about the way it works."

**CU Amiga,
October 1993 (UK)**

"Brilliance is user friendly, doing an excellent job with nearly every function and option that it offers, and the interface is well planned and highly functional."

**AmigaWorld,
December 1993 (USA)**

"The program is so fast and flexible that it makes its Amiga predecessors feel like the old Doodle program on the Commodore 64. Nothing out there can match its feature set, and it's the one paint program I've used that's so fast that it never gets in the way of your creativity."

**Amiga Computing,
October 1993 (UK)**

"It is solid as a rock. Never have I known a first version of any program stand up like this or be so perfectly polished."

**Amiga Shopper,
December 1993 (UK)**

"It took a while, but DeluxePaint IV has finally met its match. If you're looking for the best AGA paint program on the Amiga, look no further than Brilliance."

**Amazing Computing,
November 1993 (USA)**

"After using Brilliance for just a couple of days, I'm hooked. It is the only package to be released for the Amiga which can rival DeluxePaint for animation capabilities, and it is a class act."

**Amiga Down Under,
Nov/Dec 1993 (New Zealand)**

"Excellent! Brilliance is loaded with useful drawing and animation features, but it's not just the sheer number of tools on offer that impresses. Two other big points arise. First, the program is very easy to use, thanks to its intuitive, flexible and well thought-out panel system. The second major factor is Brilliance's speed. Even in HAM-8 mode, everything zips along beautifully quickly."

**Amiga Format,
October 1995**

Available from:

**Digital Creations, P.O. Box 97,
Folsom, C.A. 95763-0097.
Tel: (0101) 916 344 48 25**

U.K. distribution by Meridian Distribution 061 715 8866
Silica 081 309 1111

DIGITAL.

C R E A T I O N S

BENEATH A STEEL SKY

Lure of the Temptress was an experiment in creating a realistic adventure environment. Revolution's **Beneath A Steel Sky** takes Virtual Theatre to the next bit further. Tony Diller shows it out.

In a gaming universe where many genres have gone just about as far as they feasibly can with the technology they have, it's rare to find a link that keeps growing and growing. Flight simulations are taking small steps all the time, as are platform titles and even the odd shoot 'em up, but nowhere is as much energy and excitement being thrown about as the graphic adventure market. It's hard to guess what makes them so playable and so popular: the graphics? The complexity of the puzzles? The number of loots you have to play with? Whatever it is, no-one can deny that there's nothing like a good graphic adventure to stop you from actually interacting with the rest of the human race for a week or two. Possibly one of the most important advances for the graphic adventure was Revolution's **Lure of the Temptress**. A challenging and involving game, it's strongest feature was the implementation of the (then) new Virtual Theatre game system. A virtual play tries to create a realistic backdrop to a game, where locations connect sensibly and everything is believable. That is not its strong point, though.

The selling point comes from the characters in the game. In a virtual play everyone has something to do. They live somewhere, they go to work, or shop. They interact with each other, whether or not you are actually there. If you followed someone around, they would perform the tasks they would normally do in a

day, talk to other people, not talk to the rest, have arguments or friendly conversations and generally live out a day to day existence. It's quite something. In practice, as you no longer feel you are playing a game where the world revolves around you. A blow for the old ego, maybe, but infinitely more realistic, and by extension, more involving.

VIRTUALLY AN OUTLAW

The Virtual Theatre system has been dramatically updated for **Beneath A Steel Sky**, the second outing for Virgin Games and the results are outstanding to say the least. In case you aren't familiar, the game tells the story of a young man, orphaned and abandoned outside a giant metropolis, and brought up by a group of savages living in an area of desolation known as The Gap. At its well until one day security officers come from the city to take him back. The helicopter they are travelling in crashes, and he escapes into the urban jungle. This

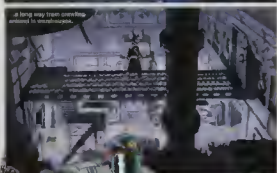
THERE WAS A MOMENT'S SILENCE AS THE COPPED CUT ITS ROTORS, THEN...



The hallway gives an impression of the city below



Spurred group? Look for signs and symbols



A long way from crawling entered in the metropolis



Dave Osborne's stunning comic art provides the backdrop

WE'RE LOOKING FOR SOME ONE

SUPER STAR

SOMEONE WHO DOESN'T BELONG HERE WHO WASHED UP IN THIS BARRAGE DUMP CAME FROM THE CITY AS A CHILD

R



Lamb, one of the masses, looks bored in his del.



All conversation is shown as text.

is only the beginning

You are this man, lost in a *Blade Runner* background, with security hunting high end low for you. You have no money, no tools and no knowledge of what you have to do, apart from the fact that you have to get out of the city and back to The Gipsy as quickly as possible. The only real problem there is that you - for some unknown reason - have become enemy number one.

So we roll into the kind of adventure I really like to play. The kind of game where you have no idea what you are meant to do, and just hope you are performing the right moves to make the story unfold properly. As in good thrillers, you are kept guessing right to the end, gradually baling led small pieces of information as you go along. For example, at the start of the game you are mistaken for a guy called Overman. Who is he? Why do the police so badly want to catch him? All these questions and many more, will be answered at the end of the game.



Virtual characters are of all kinds of personalities - see them for exam.

YOU'RE NOT ALONE

Life would be really tough if you were left abandoned on your own. Thankfully you aren't. Hidden in one of the pockets of your rather snazzy Ministry-style coat is a circuit board which holds the personality and brain of your lifetime companion, a droid called Joey. Joey lost his robot shell in the crash, but luckily you had enough presence of mind to take his controlling board. Once you find a shell for him you can get him on his feet (tracks/wheels/whatever) and then get him to help you out with some of the trickier puzzles in the game. Which one, though, as Joey has a very strong personality of his own, which will conflict with yours occasionally.

You may wonder how it adds to the game. If you've ever played *Planetfall* or *Starfall* and are familiar with Floyd the Droid, then you'll know just how humorous a conversational robot can be. A tin can with feelings paves the way for plenty of moments that, while not exactly gut-busting, should bring a smile to anyone's face.

The whole game is damn funny, if you can laugh at a fugitive from the law, that is. All the way through, just like *Day of the Tentacle*, there are not precise that happen that really draw you into the game. At one point you need to get Joey to jump start another robot. He gears up to do this, but asks you to look away as he finds it embarrassing. A probe then extends from the top of his head and thrusts in and out of what can only be described as the other robot's posterior until the other robot starts moving. It has to be seen to be fully appreciated, believe me.

The other key to the game's charm is the variety of characters you can meet. Many are based on people known to Revolution, although I wouldn't like to name any names. Hobbins is a stereotypical car salesman, happy to be left tinkering but will luck up a stink if you so much as look at a piece of machinery in the wrong way. Lamb is the boss of the building, and throws his weight around whenever he gets the chance. You have two police desk jockeys, apathetic in the extreme and bureaucratic to the point where



COMIC CRAZY

Anyone who has ever picked up a comic will know that Dave Gibbons is one of the finest comic artists in the world. They will also be fairly excited to know that not only did Dave contribute quite a lot to the graphics in the game (backgrounds and character sketches), he has also produced a full-colour, eight-page comic explaining the backstory to the game, right up to the point where the helicopter goes into a spin over the city, which is where the intro sequence takes over. A veritable masterpiece of comic art, this trouble is very brief, and will doubtless become a collector's item in years to come. It's practically worth getting it just for that!

»



One thing that will surprise a lot of people about this game is the amount of what I will term "soft content" where often graphics adventures rely on slapstick and gross-out displays of the simple kinds of US humor to get people laughing. *Beneath A Steel Sky* contains some bad language, huge amounts of wit, satire, sarcasm and a more than fair admixture of double entendres. There are also one or two gory moments in it even when a good gets shot in two by a laser cannon his legs drop in the floor, and his upper torso slides along the ground, slithering slightly. Yuck!



use the same object more than once you can have a hard time just figuring out what to use

PICK UP JOINT

The control method in *Steel Sky* is so simple that Revolution can finally lay claim to having created the ultimate in intuitive control methods. The left mouse button selects an object to look at, and the right mouse button selects an object to use. To look at a door, you click with the left. You don't need to tell the program that you want to open it - it knows that the only thing you can really do with a door when you want to go through is open it. In much the same way that the only thing you can do with a closed window is look through it. In pictures where something has no real use, the main character will pick it up and stuff it in his coat. From this point, moving the mouse to the top of the screen will call up the inventory, and the same mouse controls apply, although using an object from the inventory will require you selecting something to use it on. What could be simpler?

The graphics in the game are simply stunning. There is no other way to describe them. Hand-painted backgrounds, scanned in and retouched step by step from looking like a run-of-the-mill adventure, and the use of

exceptional detail make the smallest, dulled rooms interesting to search. Small onyx fans rotate and, in the far distance, cars travel along the highways.

Every character has a whole range of moves and expressions, which along with the personality generated through conversation, gives them depth and makes them all the more believable.

So what's it actually like to play? A lot of fun, to be honest. The puzzles are logical without being too obvious, and the control method means that you can get into it immediately. There's enough challenge to keep even the most ardent adventure gamer, while beginners will work through it without straining too hard. There is a really nice learning curve to the game making it taxing without being frustrating.

There are always enough clues to help you figure out problems, but that isn't the way the game is easy. After a few hours play I had managed to work through the first sixth of the game, but the speed I was progressing was definitely slowing towards the end. No doubt by the time this review is printed, I will have finished the game, but only because it's so much fun to play that I can't think of playing anything else in its field.

Beneath A Steel Sky also features one important aspect that I find sadly lacking in a lot of adventures. It is extremely addictive. You always want to know what someone will say to you next, or what the next problem is going to be.

A genuinely enjoyable experience, and one where there are so many different ways to play it, I can definitely see myself returning to the one after I've completed it, just to find out what I've missed. Simply one of the best adventures ever released on the Amiga. **CD**

they actually have to do some work. These and many others are just waiting to help you out, slow you down or move you down, depending on how you deal with them.

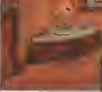
Of course, if you're going to have that many puzzles, then you need a fairly large environment to put them all in, and *Beneath A Steel Sky* is huge. With almost a hundred different screens, most of which you return to more than once, there sure is a hell of a lot to be done. Unlike certain other games, *Steel Sky*

doesn't have you wandering through dozens of screens doing nothing. There is generally at least one puzzle on every screen, and the game is designed so that it is almost impossible to die or fail. The puzzles need to be completed in order, as you usually can't progress very far if you miss something. This means you won't and up on the final section and discover that the laser weapon you didn't think you needed thirty screens ago is actually very important. If you've missed something, chances are it's



The outside world is a mess

the people have the same kind of fearful reactions



People that surround him have the same kind of fearful reactions



EXPLOSIONS! GUNS! BLOOD! Fighting, isn't it? But you wish you had a copy!



VIRGIN £34.99

TEL 081 960 2255

RELEASE DATE: TRA
 GENRE: GRAPHIC ADVENTURE
 TEAM: REVOLUTION
 CONTROLS: MOUSE
 NUMBER OF DISKS: 16
 NUMBER OF PLAYERS: 1
 HARD DISK INSTALLABLE: YES
 MEMORY: 1Mb

GRAPHICS: 99%
 SOUND: 97%
 LASTABILITY: 98%
 PLAYABILITY: 95%

One of the greatest adventures ever.

OVERALL 95%

Super Sound



- Use **FAST** or **Chip** memory for samples.
- The Realtime Effects Generator II included, **FREE**.
- Now supports even **MORE** samplers including:
 - Technosound Turbo, TT2, Trilogic sampler, Megames Master
- Over 70 Fantastic Special Effects.
- Full set of Editing and Looping functions.
- IFF compatible, and compatible with ALL Amiga's.
- High sampling rates: 34KHz Stereo, 50KHz Mono*

*NOTE: Sampling rates may vary for different sampling engines.

"Supersound 4 12 is one of the most advanced sample editors available, easily surpassing the standards of any budget sampler"

Tony Horgan 90%,
CU AMIGA, Sept. '83



Super Sound and the manual is also available from selected Public Domain Libraries and other outlets. Extra distributors welcome, please enquire.

PRICES AND POSTAGE...

Super Sound Products
Software £4.00
Manual £10.00
Super Sound Updates
From version 3.0 to 4.0 Old disk £2.00
From version 4.0 to 4.1 Old disk £5.00

Postage and Packing
Software & Updates only
UK, Euro. + RoW £1.00
UK £1.00
Europe £2.00
RoW £5.00

Micro Active computers

MAIL ORDER
HOT LINE 081 981 9080

Opening Hours:
Mon - Fri 9am - 7.00pm
Sat 9am - 5.30pm

AMIGA 600
+ Lemmings
(Unfilled Offer)
£175.95
1 year on site warranty

AMIGA CD32
+ Oscar Piggers
£275.45
1 year on site warranty

AMIGA 1200 ** NEW **
DESK DYNAMITE PACK
Includes: Digita Wordworth,
Reflexe Paint IV (AGA), Digita
Print Manager, Oscar & Beards
£319.95
1 year on site warranty

AMIGA 1200
Racy & Chubby
Nigel Mansell STX Trolls
£272.00
1 year on site warranty

ZOO! PACK inc 3 great games
& word processor: Zool, Pinball
Dreams, Striker, Transwarp
only £15 when purchased
with an Amiga 600 or 1200

OFFICIAL COMMODORE APPROVED HARD DRIVE CONFIGURATIONS AVAILABLE FOR THE ABOVE AGED AT A1200 PACKS. WE ALSO HAVE AVAILABLE: ADHITEE, PEIETEE, EFTWARE ETC...CALL FOR BEST PRICES

COMMODORE 1004S 14" COLOUR MONITOR.....£167.50
CITIZEN 120 D1 9 PIN MONO PRINTER.....£116.00

DELIVERY CHARGES: PLEASE ADD £3.50 TO ORDERS. ALL ORDERS DISPATCHED ON CREDIT CLEARANCE SUBJECT TO AVAILABILITY. NEXT DAY & SATURDAY DELIVERY CAN BE ARRANGED CALL FOR DETAILS

NOW TO ORDER: PLEASE MAKE CREDIT/POSTAL ORDER PAYABLE TO MICRO ACTIVE A KENO WITH ORDER TO: MICRO ACTIVE, ROW NOVEE RUINEEVE CENTRE, TE3-TE9 ROW ROAD, LONDON EC3 2SE
*** PRICES MAY CHANGE WITHOUT NOTICE**

Mail Order only. No credit cards please. Cheques and P.O.s payable to: KBE Software Dept CU, 12 Salfers Close, Werrington, Stoke on Trent, ST9 0DB, ENGLAND. Tel: UK 0782 304378 Int: +44 782 304378

NODDY'S BIG ADVENTURE

Noddy's Big Adventure is the sequel to the highly successful Noddy's Playtime. It takes children to the North West corner of Toyland and includes 13 different programs to educate and entertain children for hours on end.

This graded creativity and entertainment package is specifically designed for 3-7 year olds and relates to the early requirements of the National Curriculum.

Drive with Noddy in his car pick up passengers along the way and visit many exciting locations.

- Kitchen Fun - sequencing, colour and shape matching and vocabulary
- Noddy's Scales - number matching through to addition
- Tricky Trees - memory, sequencing and the language of colour, shape and
- Can you Find me? - shape and colour recognition
- Term's Scrapbook - sequencing and reading skills
- Beach Series - sorting
- Picnic Attack - water fun game

Junior Word Processor. This excellent utility develops story telling skills. Its scope is outstanding and features many facilities found in grown up word processors. There is also a word game in each level to create an element of fun.

Available for: Amiga, Acorn Archimedes PC and PC Windows



NODDY'S PLAYTIME

Noddy's Playtime added a new perspective to educational games, the outstanding value from this extensive package has set new standards of potential inspiration in this important area of software based on learning with fun.

Drive around Toy Town, explore exciting locations and learning programs and a full Junior Art Package packed full of creative fun. Designed for 3-7 year olds.

Available for: Amiga, Acorn Archimedes PC and ST

PLAYTIME & BIG ADVENTURE TWICE THE LEARNING EXPERIENCE



Learn (Date Location Nottingham NG2 7LX)
Tel: 0533 216750 Fax: 0533 216751

Available from: Books, Clumps, Discs, Excuses, Future Zone, Games, John Lewis, John Menzies, PC World, Remains, Tandy, The Computer Store, Virgin and many specialist outlets.

CHRISTMAS CRACKERS

Put the world's best selling Amiga books at the top of your Christmas list this year!

Peter Fitzpatrick

Amiga
next steps



Amiga A1200 Starter Pack £39.95 ISBN 1-873308-30-2

Sure to be the Christmas best seller, this bumper value pack includes the Amiga A1200 Insider Guide, Amiga A1200 Next Steps insider Guide and a 1 hour video tape on A1200 basics from West Street Video. Australia's premier training video company. Also includes four disks of essential software to help get you going.

Amiga A1200 Insider Guide by Bruce Smith 256 pages, £14.95, ISBN 1-873308-15-9

Our NUMBER ONE best seller from the wordprocessor of TOP SELLING author Bruce Smith. Thousands of A1200 owners have already got to grips with their Amiga with the aid of this superb introduction to the A1200. Packed with helpful hints, tips and useful advice this book is aimed at the novice and guarantees to get you using both Wordbench and AmigaDOS without any fuss. A must for Christmas!

Amiga A1200 Next Steps by Peter Fitzpatrick, £14.95 ISBN 1-873308-24-8

Now you've come to terms with your A1200 you're looking to improve your techniques and explore the many possibilities that the machine offers. Amiga A1200 Next Steps shows you how. It explains in an easy to follow style how to choose, install and manage a hard drive, how to use Multiview and AmigaDOS and how to build improved storage and display. It provides an introduction to video and graphics advice, making music and programming, with advice on getting the most from the machine in everyday use. With free disk of PD software.

Amiga Assembler Insider Guide by Paul Overton, £14.95, ISBN 1-873308-27-2

Do you want to learn Assembly language but don't know your littlefinger from your Aunt's remonstrated string? Then the Amiga Assembler Insider Guide is the book for you. It explains the concepts behind the processes and demystifies the jargon with easy-to-follow worked examples and step-by-step instructions. Applicable to all Amigas including A500, A1200, A3000 and A4000 it provides a perfect flying start in Assembly programming. Comes with a free disk which includes the A55k assembler and all the programs from the book.

**CREDIT CARD
HOTLINE**

**(0923)
894355**

**24-Hr Answerphone
24-Hour dispatch**

How to order -
Please contact us by fax, phone or by return of post. Please include your name and address, credit card number (if applicable), and your daytime telephone number.

*All UK postage £3.50
*First class postage free in the UK
*Postage £2.00 each (Europe)
*£2 per book elsewhere

Please send to: Bruce Smith Books Ltd, FREEPOST 242, PO Box 352, St. Albans, Herts, AL2 3BR

I enclose a cheque/PD for £

Alternatively charge my

Visa/Access/Mastercard Number:

made payable to Bruce Smith Books Ltd.

Expiry Date:

Amount: £

Name

Address

Postcode

Signed:

- | | | | |
|--|--------|---|--------|
| <input type="checkbox"/> A1200 Starter Pack | £39.95 | <input type="checkbox"/> Mastering Amiga Printers | £19.95 |
| <input type="checkbox"/> Amiga A500 Insider Guide | £14.95 | <input type="checkbox"/> Mastering Amiga System | £29.95 |
| <input type="checkbox"/> Amiga A1200 Insider Guide | £14.95 | <input type="checkbox"/> Mastering Amiga Assemblers | £29.95 |
| <input type="checkbox"/> Amiga A1200 Next Steps | £14.95 | <input type="checkbox"/> Mastering Amiga Arrows | £29.95 |
| <input type="checkbox"/> Assembler Insider Guide | £14.95 | <input type="checkbox"/> Mastering Amiga Beginners | £19.95 |
| <input type="checkbox"/> Mastering AmigaDOS Vol 1 | £21.95 | <input type="checkbox"/> Mastering AmigaDOS Vol 2 | £21.95 |
| <input type="checkbox"/> Mastering AmigaDOS Vol 2 | £21.95 | <input type="checkbox"/> Mastering AmigaDOS Vol 3 | £29.95 |
| <input type="checkbox"/> Mastering Amiga AMOS | £19.95 | <input type="checkbox"/> Amiga Gamer's Guide | £14.95 |

South Lincs PD

Large selection of Amiga PD/Shareware (Over 2,200 disks) including: Games, Graphics and Animation, Utilities, Music, Demos, T-Bag, Fred Fish Disks 1-900, Assassins Games Disks 1-130 Below is a small selection of titles available.

1-9 disks £1 each
10-19 disks 85p
20+ disks 80p } add 75p for P&P per order

LATEST ASSASSIN GAMES

| | | | | | |
|-------|------------------------|-------|------------------------------|-------|------------------------------|
| A0121 | Quaking, 4 in 1 Arcade | A0119 | Base Commander II: Tank Wars | A0118 | Base Commander II: Tank Wars |
| A0120 | Strike Back: Ship Wars | A0117 | Base Commander II: Tank Wars | A0116 | Base Commander II: Tank Wars |
| A0119 | Strike Back: Ship Wars | A0115 | Base Commander II: Tank Wars | A0114 | Base Commander II: Tank Wars |
| A0118 | Strike Back: Ship Wars | A0113 | Base Commander II: Tank Wars | A0112 | Base Commander II: Tank Wars |
| A0117 | Strike Back: Ship Wars | A0111 | Base Commander II: Tank Wars | A0110 | Base Commander II: Tank Wars |
| A0116 | Strike Back: Ship Wars | A0109 | Base Commander II: Tank Wars | A0108 | Base Commander II: Tank Wars |
| A0115 | Strike Back: Ship Wars | A0107 | Base Commander II: Tank Wars | A0106 | Base Commander II: Tank Wars |
| A0114 | Strike Back: Ship Wars | A0105 | Base Commander II: Tank Wars | A0104 | Base Commander II: Tank Wars |
| A0113 | Strike Back: Ship Wars | A0103 | Base Commander II: Tank Wars | A0102 | Base Commander II: Tank Wars |
| A0112 | Strike Back: Ship Wars | A0101 | Base Commander II: Tank Wars | | |

CENTRAL LICENCEWARE

| | | | | | |
|---------------------------|-------|--------|--------|--------|--------|
| TOTAL CENTRAL LICENCEWARE | | £19.95 | £19.95 | £19.95 | £19.95 |
| CL001 | CL002 | CL003 | CL004 | CL005 | CL006 |
| CL007 | CL008 | CL009 | CL010 | CL011 | CL012 |
| CL013 | CL014 | CL015 | CL016 | CL017 | CL018 |
| CL019 | CL020 | CL021 | CL022 | CL023 | CL024 |
| CL025 | CL026 | CL027 | CL028 | CL029 | CL030 |
| CL031 | CL032 | CL033 | CL034 | CL035 | CL036 |
| CL037 | CL038 | CL039 | CL040 | CL041 | CL042 |
| CL043 | CL044 | CL045 | CL046 | CL047 | CL048 |
| CL049 | CL050 | CL051 | CL052 | CL053 | CL054 |
| CL055 | CL056 | CL057 | CL058 | CL059 | CL060 |
| CL061 | CL062 | CL063 | CL064 | CL065 | CL066 |
| CL067 | CL068 | CL069 | CL070 | CL071 | CL072 |
| CL073 | CL074 | CL075 | CL076 | CL077 | CL078 |
| CL079 | CL080 | CL081 | CL082 | CL083 | CL084 |
| CL085 | CL086 | CL087 | CL088 | CL089 | CL090 |
| CL091 | CL092 | CL093 | CL094 | CL095 | CL096 |
| CL097 | CL098 | CL099 | CL100 | CL101 | CL102 |
| CL103 | CL104 | CL105 | CL106 | CL107 | CL108 |
| CL109 | CL110 | CL111 | CL112 | CL113 | CL114 |
| CL115 | CL116 | CL117 | CL118 | CL119 | CL120 |
| CL121 | CL122 | CL123 | CL124 | CL125 | CL126 |
| CL127 | CL128 | CL129 | CL130 | CL131 | CL132 |
| CL133 | CL134 | CL135 | CL136 | CL137 | CL138 |
| CL139 | CL140 | CL141 | CL142 | CL143 | CL144 |
| CL145 | CL146 | CL147 | CL148 | CL149 | CL150 |
| CL151 | CL152 | CL153 | CL154 | CL155 | CL156 |
| CL157 | CL158 | CL159 | CL160 | CL161 | CL162 |
| CL163 | CL164 | CL165 | CL166 | CL167 | CL168 |
| CL169 | CL170 | CL171 | CL172 | CL173 | CL174 |
| CL175 | CL176 | CL177 | CL178 | CL179 | CL180 |
| CL181 | CL182 | CL183 | CL184 | CL185 | CL186 |
| CL187 | CL188 | CL189 | CL190 | CL191 | CL192 |
| CL193 | CL194 | CL195 | CL196 | CL197 | CL198 |
| CL199 | CL200 | CL201 | CL202 | CL203 | CL204 |
| CL205 | CL206 | CL207 | CL208 | CL209 | CL210 |
| CL211 | CL212 | CL213 | CL214 | CL215 | CL216 |
| CL217 | CL218 | CL219 | CL220 | CL221 | CL222 |
| CL223 | CL224 | CL225 | CL226 | CL227 | CL228 |
| CL229 | CL230 | CL231 | CL232 | CL233 | CL234 |
| CL235 | CL236 | CL237 | CL238 | CL239 | CL240 |
| CL241 | CL242 | CL243 | CL244 | CL245 | CL246 |
| CL247 | CL248 | CL249 | CL250 | CL251 | CL252 |
| CL253 | CL254 | CL255 | CL256 | CL257 | CL258 |
| CL259 | CL260 | CL261 | CL262 | CL263 | CL264 |
| CL265 | CL266 | CL267 | CL268 | CL269 | CL270 |
| CL271 | CL272 | CL273 | CL274 | CL275 | CL276 |
| CL277 | CL278 | CL279 | CL280 | CL281 | CL282 |
| CL283 | CL284 | CL285 | CL286 | CL287 | CL288 |
| CL289 | CL290 | CL291 | CL292 | CL293 | CL294 |
| CL295 | CL296 | CL297 | CL298 | CL299 | CL300 |
| CL301 | CL302 | CL303 | CL304 | CL305 | CL306 |
| CL307 | CL308 | CL309 | CL310 | CL311 | CL312 |
| CL313 | CL314 | CL315 | CL316 | CL317 | CL318 |
| CL319 | CL320 | CL321 | CL322 | CL323 | CL324 |
| CL325 | CL326 | CL327 | CL328 | CL329 | CL330 |
| CL331 | CL332 | CL333 | CL334 | CL335 | CL336 |
| CL337 | CL338 | CL339 | CL340 | CL341 | CL342 |
| CL343 | CL344 | CL345 | CL346 | CL347 | CL348 |
| CL349 | CL350 | CL351 | CL352 | CL353 | CL354 |
| CL355 | CL356 | CL357 | CL358 | CL359 | CL360 |
| CL361 | CL362 | CL363 | CL364 | CL365 | CL366 |
| CL367 | CL368 | CL369 | CL370 | CL371 | CL372 |
| CL373 | CL374 | CL375 | CL376 | CL377 | CL378 |
| CL379 | CL380 | CL381 | CL382 | CL383 | CL384 |
| CL385 | CL386 | CL387 | CL388 | CL389 | CL390 |
| CL391 | CL392 | CL393 | CL394 | CL395 | CL396 |
| CL397 | CL398 | CL399 | CL400 | CL401 | CL402 |
| CL403 | CL404 | CL405 | CL406 | CL407 | CL408 |
| CL409 | CL410 | CL411 | CL412 | CL413 | CL414 |
| CL415 | CL416 | CL417 | CL418 | CL419 | CL420 |
| CL421 | CL422 | CL423 | CL424 | CL425 | CL426 |
| CL427 | CL428 | CL429 | CL430 | CL431 | CL432 |
| CL433 | CL434 | CL435 | CL436 | CL437 | CL438 |
| CL439 | CL440 | CL441 | CL442 | CL443 | CL444 |
| CL445 | CL446 | CL447 | CL448 | CL449 | CL450 |
| CL451 | CL452 | CL453 | CL454 | CL455 | CL456 |
| CL457 | CL458 | CL459 | CL460 | CL461 | CL462 |
| CL463 | CL464 | CL465 | CL466 | CL467 | CL468 |
| CL469 | CL470 | CL471 | CL472 | CL473 | CL474 |
| CL475 | CL476 | CL477 | CL478 | CL479 | CL480 |
| CL481 | CL482 | CL483 | CL484 | CL485 | CL486 |
| CL487 | CL488 | CL489 | CL490 | CL491 | CL492 |
| CL493 | CL494 | CL495 | CL496 | CL497 | CL498 |
| CL499 | CL500 | CL501 | CL502 | CL503 | CL504 |
| CL505 | CL506 | CL507 | CL508 | CL509 | CL510 |
| CL511 | CL512 | CL513 | CL514 | CL515 | CL516 |
| CL517 | CL518 | CL519 | CL520 | CL521 | CL522 |
| CL523 | CL524 | CL525 | CL526 | CL527 | CL528 |
| CL529 | CL530 | CL531 | CL532 | CL533 | CL534 |
| CL535 | CL536 | CL537 | CL538 | CL539 | CL540 |
| CL541 | CL542 | CL543 | CL544 | CL545 | CL546 |
| CL547 | CL548 | CL549 | CL550 | CL551 | CL552 |
| CL553 | CL554 | CL555 | CL556 | CL557 | CL558 |
| CL559 | CL560 | CL561 | CL562 | CL563 | CL564 |
| CL565 | CL566 | CL567 | CL568 | CL569 | CL570 |
| CL571 | CL572 | CL573 | CL574 | CL575 | CL576 |
| CL577 | CL578 | CL579 | CL580 | CL581 | CL582 |
| CL583 | CL584 | CL585 | CL586 | CL587 | CL588 |
| CL589 | CL590 | CL591 | CL592 | CL593 | CL594 |
| CL595 | CL596 | CL597 | CL598 | CL599 | CL600 |
| CL601 | CL602 | CL603 | CL604 | CL605 | CL606 |
| CL607 | CL608 | CL609 | CL610 | CL611 | CL612 |
| CL613 | CL614 | CL615 | CL616 | CL617 | CL618 |
| CL619 | CL620 | CL621 | CL622 | CL623 | CL624 |
| CL625 | CL626 | CL627 | CL628 | CL629 | CL630 |
| CL631 | CL632 | CL633 | CL634 | CL635 | CL636 |
| CL637 | CL638 | CL639 | CL640 | CL641 | CL642 |
| CL643 | CL644 | CL645 | CL646 | CL647 | CL648 |
| CL649 | CL650 | CL651 | CL652 | CL653 | CL654 |
| CL655 | CL656 | CL657 | CL658 | CL659 | CL660 |
| CL661 | CL662 | CL663 | CL664 | CL665 | CL666 |
| CL667 | CL668 | CL669 | CL670 | CL671 | CL672 |
| CL673 | CL674 | CL675 | CL676 | CL677 | CL678 |
| CL679 | CL680 | CL681 | CL682 | CL683 | CL684 |
| CL685 | CL686 | CL687 | CL688 | CL689 | CL690 |
| CL691 | CL692 | CL693 | CL694 | CL695 | CL696 |
| CL697 | CL698 | CL699 | CL700 | CL701 | CL702 |
| CL703 | CL704 | CL705 | CL706 | CL707 | CL708 |
| CL709 | CL710 | CL711 | CL712 | CL713 | CL714 |
| CL715 | CL716 | CL717 | CL718 | CL719 | CL720 |
| CL721 | CL722 | CL723 | CL724 | CL725 | CL726 |
| CL727 | CL728 | CL729 | CL730 | CL731 | CL732 |
| CL733 | CL734 | CL735 | CL736 | CL737 | CL738 |
| CL739 | CL740 | CL741 | CL742 | CL743 | CL744 |
| CL745 | CL746 | CL747 | CL748 | CL749 | CL750 |
| CL751 | CL752 | CL753 | CL754 | CL755 | CL756 |
| CL757 | CL758 | CL759 | CL760 | CL761 | CL762 |
| CL763 | CL764 | CL765 | CL766 | CL767 | CL768 |
| CL769 | CL770 | CL771 | CL772 | CL773 | CL774 |
| CL775 | CL776 | CL777 | CL778 | CL779 | CL780 |
| CL781 | CL782 | CL783 | CL784 | CL785 | CL786 |
| CL787 | CL788 | CL789 | CL790 | CL791 | CL792 |
| CL793 | CL794 | CL795 | CL796 | CL797 | CL798 |
| CL799 | CL800 | CL801 | CL802 | CL803 | CL804 |
| CL805 | CL806 | CL807 | CL808 | CL809 | CL810 |
| CL811 | CL812 | CL813 | CL814 | CL815 | CL816 |
| CL817 | CL818 | CL819 | CL820 | CL821 | CL822 |
| CL823 | CL824 | CL825 | CL826 | CL827 | CL828 |
| CL829 | CL830 | CL831 | CL832 | CL833 | CL834 |
| CL835 | CL836 | CL837 | CL838 | CL839 | CL840 |
| CL841 | CL842 | CL843 | CL844 | CL845 | CL846 |
| CL847 | CL848 | CL849 | CL850 | CL851 | CL852 |
| CL853 | CL854 | CL855 | CL856 | CL857 | CL858 |
| CL859 | CL860 | CL861 | CL862 | CL863 | CL864 |
| CL865 | CL866 | CL867 | CL868 | CL869 | CL870 |
| CL871 | CL872 | CL873 | CL874 | CL875 | CL876 |
| CL877 | CL878 | CL879 | CL880 | CL881 | CL882 |
| CL883 | CL884 | CL885 | CL886 | CL887 | CL888 |
| CL889 | CL890 | CL891 | CL892 | CL893 | CL894 |
| CL895 | CL896 | CL897 | CL898 | CL899 | CL900 |
| CL901 | CL902 | CL903 | CL904 | CL905 | CL906 |
| CL907 | CL908 | CL909 | CL910 | CL911 | CL912 |
| CL913 | CL914 | CL915 | CL916 | CL917 | CL918 |
| CL919 | CL920 | CL921 | CL922 | CL923 | CL924 |
| CL925 | CL926 | CL927 | CL928 | CL929 | CL930 |
| CL931 | CL932 | CL933 | CL934 | CL935 | CL936 |
| CL937 | CL938 | CL939 | CL940 | CL941 | CL942 |
| CL943 | CL944 | CL945 | CL946 | CL947 | CL948 |
| CL949 | CL950 | CL951 | CL952 | CL953 | CL954 |
| CL955 | CL956 | CL957 | CL958 | CL959 | CL960 |
| CL961 | CL962 | CL963 | CL964 | CL965 | CL966 |
| CL967 | CL968 | CL969 | CL970 | CL971 | CL972 |
| CL973 | CL974 | CL975 | CL976 | CL977 | CL978 |
| CL979 | CL980 | CL981 | CL982 | CL983 | CL984 |
| CL985 | CL986 | CL987 | CL988 | CL989 | CL990 |
| CL991 | CL992 | CL993 | CL994 | CL995 | CL996 |
| CL997 | CL998 | CL999 | CL1000 | CL1001 | CL1002 |

CL001: Microsoft Windows, Microsoft Exchange, Microsoft Office, Microsoft SQL Server, Microsoft Dynamics, Microsoft Project, Microsoft Access, Microsoft Word, Microsoft Excel, Microsoft PowerPoint, Microsoft Publisher, Microsoft OneNote, Microsoft Outlook, Microsoft Internet Explorer, Microsoft Edge, Microsoft Windows Defender, Microsoft Windows Firewall, Microsoft Windows Update, Microsoft Windows Defender Security Center, Microsoft Windows Defender SmartScreen, Microsoft Windows Defender Application Guard, Microsoft Windows Defender Credential Guard, Microsoft Windows Defender Device Guard, Microsoft Windows Defender Network Protection, Microsoft Windows Defender SmartScreen, Microsoft Windows Defender Application Guard, Microsoft Windows Defender Credential Guard, Microsoft Windows Defender Device Guard, Microsoft Windows Defender Network Protection, Microsoft Windows Defender SmartScreen, Microsoft Windows Defender Application Guard, Microsoft Windows Defender Credential Guard, Microsoft Windows Defender Device Guard, Microsoft Windows Defender Network Protection, Microsoft Windows Defender SmartScreen, Microsoft Windows Defender Application Guard, Microsoft Windows Defender Credential Guard, Microsoft Windows Defender Device Guard, Microsoft Windows Defender Network Protection, Microsoft Windows Defender SmartScreen, Microsoft Windows Defender Application Guard, Microsoft Windows Defender Credential Guard, Microsoft Windows Defender Device Guard, Microsoft Windows Defender Network Protection, Microsoft Windows Defender SmartScreen, Microsoft Windows Defender Application Guard, Microsoft Windows Defender Credential Guard, Microsoft Windows Defender Device Guard, Microsoft Windows Defender Network Protection, Microsoft Windows Defender SmartScreen, Microsoft Windows Defender Application Guard, Microsoft Windows Defender Credential Guard, Microsoft Windows Defender Device Guard, Microsoft Windows Defender Network Protection, Microsoft Windows Defender SmartScreen, Microsoft Windows Defender Application Guard, Microsoft Windows Defender Credential Guard, Microsoft Windows Defender Device Guard, Microsoft Windows Defender Network Protection, Microsoft Windows Defender SmartScreen, Microsoft Windows Defender Application Guard, Microsoft Windows Defender Credential Guard, Microsoft Windows Defender Device Guard, Microsoft Windows Defender Network Protection, Microsoft Windows Defender SmartScreen, Microsoft Windows Defender Application Guard, Microsoft Windows Defender Credential Guard, Microsoft Windows Defender Device Guard, Microsoft Windows Defender Network Protection, Microsoft Windows Defender SmartScreen, Microsoft Windows Defender Application Guard, Microsoft Windows Defender Credential Guard, Microsoft Windows Defender Device Guard, Microsoft Windows Defender Network Protection, Microsoft Windows Defender SmartScreen, Microsoft Windows Defender Application Guard, Microsoft Windows Defender Credential Guard, Microsoft Windows Defender Device Guard, Microsoft Windows Defender Network Protection, Microsoft Windows Defender SmartScreen, Microsoft Windows Defender Application Guard, Microsoft Windows Defender Credential Guard, Microsoft Windows Defender Device Guard, Microsoft Windows Defender Network Protection, Microsoft Windows Defender SmartScreen, Microsoft Windows Defender Application Guard, Microsoft Windows Defender Credential Guard, Microsoft Windows Defender Device Guard, Microsoft Windows Defender Network Protection, Microsoft Windows Defender SmartScreen, Microsoft Windows Defender Application Guard, Microsoft Windows Defender Credential Guard, Microsoft Windows Defender Device Guard, Microsoft Windows Defender Network Protection, Microsoft Windows Defender SmartScreen, Microsoft Windows Defender Application Guard, Microsoft Windows Defender Credential Guard, Microsoft Windows Defender Device Guard, Microsoft Windows Defender Network Protection, Microsoft Windows Defender SmartScreen, Microsoft Windows Defender Application Guard, Microsoft Windows Defender Credential Guard, Microsoft Windows Defender Device Guard, Microsoft Windows Defender Network Protection, Microsoft Windows Defender SmartScreen, Microsoft Windows Defender Application Guard, Microsoft Windows Defender Credential Guard, Microsoft Windows Defender Device Guard, Microsoft Windows Defender Network Protection, Microsoft Windows Defender SmartScreen, Microsoft Windows Defender Application Guard, Microsoft Windows Defender Credential Guard, Microsoft Windows Defender Device Guard, Microsoft Windows Defender Network Protection, Microsoft Windows Defender SmartScreen, Microsoft Windows Defender Application Guard, Microsoft Windows Defender Credential Guard, Microsoft Windows Defender Device Guard, Microsoft Windows Defender Network Protection, Microsoft Windows Defender SmartScreen, Microsoft Windows Defender Application Guard, Microsoft Windows Defender Credential Guard, Microsoft Windows Defender Device Guard, Microsoft Windows Defender Network Protection, Microsoft Windows Defender SmartScreen, Microsoft Windows Defender Application Guard, Microsoft Windows Defender Credential Guard, Microsoft Windows Defender Device Guard, Microsoft Windows Defender Network Protection, Microsoft Windows Defender SmartScreen, Microsoft Windows Defender Application Guard, Microsoft Windows Defender Credential Guard, Microsoft Windows Defender Device Guard, Microsoft Windows Defender Network Protection, Microsoft Windows Defender SmartScreen, Microsoft Windows Defender Application Guard, Microsoft Windows Defender Credential Guard, Microsoft Windows Defender Device Guard, Microsoft Windows Defender Network Protection, Microsoft Windows Defender SmartScreen, Microsoft Windows Defender Application Guard, Microsoft Windows Defender Credential Guard, Microsoft Windows Defender Device Guard, Microsoft Windows Defender Network Protection, Microsoft Windows Defender SmartScreen, Microsoft Windows Defender Application Guard, Microsoft Windows Defender Credential Guard, Microsoft Windows Defender Device Guard, Microsoft Windows Defender Network Protection, Microsoft Windows Defender SmartScreen, Microsoft Windows Defender Application Guard, Microsoft Windows Defender Credential Guard, Microsoft Windows Defender Device Guard, Microsoft Windows Defender Network Protection, Microsoft Windows Defender SmartScreen, Microsoft Windows Defender Application Guard, Microsoft Windows Defender Credential Guard, Microsoft Windows Defender Device Guard, Microsoft Windows Defender Network Protection, Microsoft Windows Defender SmartScreen, Microsoft Windows Defender Application Guard, Microsoft Windows Defender Credential Guard, Microsoft Windows Defender Device Guard, Microsoft Windows Defender Network Protection, Microsoft Windows Defender SmartScreen, Microsoft Windows Defender Application Guard, Microsoft Windows Defender Credential Guard, Microsoft Windows Defender Device Guard, Microsoft Windows Defender Network Protection, Microsoft Windows Defender SmartScreen, Microsoft Windows Defender Application Guard, Microsoft Windows Defender Credential Guard, Microsoft Windows Defender Device Guard, Microsoft Windows Defender Network Protection, Microsoft Windows Defender SmartScreen, Microsoft Windows Defender Application Guard, Microsoft Windows Defender Credential Guard, Microsoft Windows Defender Device Guard, Microsoft Windows Defender Network Protection, Microsoft Windows Defender SmartScreen, Microsoft Windows Defender Application Guard, Microsoft Windows Defender Credential Guard, Microsoft Windows Defender Device Guard, Microsoft Windows Defender Network Protection, Microsoft Windows Defender SmartScreen, Microsoft Windows Defender Application Guard, Microsoft Windows Defender Credential Guard, Microsoft Windows Defender Device Guard, Microsoft Windows Defender Network Protection, Microsoft Windows Defender SmartScreen, Microsoft Windows Defender Application Guard, Microsoft Windows Defender Credential Guard, Microsoft Windows Defender Device Guard, Microsoft Windows Defender Network Protection, Microsoft Windows Defender SmartScreen, Microsoft Windows Defender Application Guard, Microsoft Windows Defender Credential Guard, Microsoft Windows Defender Device Guard, Microsoft Windows Defender Network Protection, Microsoft Windows Defender SmartScreen, Microsoft Windows Defender



BRIAN THE LION

PSYGNOSIS OUT JANUARY £35.99



After hours to tear his heart on the screen, your look at this impression.

Whether you're a fan of the game, this is down to your own personal preference. But the facts are there to see. Brian the Lion is a game that's a lot of fun to play, but you're hearing it all before it's too late.

One of the things I like about this game is that it's not just a game, it's a story. It's a story that's a lot of fun to play, but you're hearing it all before it's too late.

Visually, the game is quite something. Although it's a bit of a shame that it's not as good as the original, it's still a game that's a lot of fun to play. It's a game that's a lot of fun to play, but you're hearing it all before it's too late.

Why Brian the Lion is a game that's a lot of fun to play, but you're hearing it all before it's too late. It's a game that's a lot of fun to play, but you're hearing it all before it's too late.

Tony Dillon

86%

After a few more bits of the background, you're in progress.



Top: At the end of the first level, the only way to get off the island is to climb aboard the catapult.



FURY OF THE FURRIES

MINDSCAPE OUT NOW £35.99

Yes, Mindscape is taking the time to make a board game more, but the idea of the game is to take the idea of the game and make it a game that's a lot of fun to play. It's a game that's a lot of fun to play, but you're hearing it all before it's too late.

The game plays like a cross between Lemmings and Morph. You're in a world that's a lot of fun to play, but you're hearing it all before it's too late.

I really am enjoying this one. It's a game that's a lot of fun to play, but you're hearing it all before it's too late. It's a game that's a lot of fun to play, but you're hearing it all before it's too late.

There's a bit of a thing on the joystick, which means you have to be thinking ahead of yourself. After a couple of goes, though, the controls become so intuitive that you're in a game that's a lot of fun to play, but you're hearing it all before it's too late.

Tony Dillon

81%



Not quite a purple people eater, space a small, rounded rock later. Mean little thing, isn't it?

'War has never been so much fun,' or so the song goes. Jon Sloan dons fatigues to join the chorus line for Virgin's latest bloodfest.

MASS DESTRUCTION

Who would it be war without a collection of powerful weapons capable of mass destruction. *Cannon Fodder* is no different, there's a enough firepower to there to stock the arsenal of a small South American dictator.

You invasion team starts each scenario with an unlimited supply of bullets but, depending on the plot, there's the opportunity to pick up much bigger guns! **GRENADES** - Your basic short-range nifty little small-bits-of-straight-deadness. Their range is limited, but they can be thrown over obstacles to hit their targets. Very useful for a sneak attack. **ROCKETS** - These bazooka shells are great for large-scale attacks. They used against buildings or enemy soldiers and large equipment. A great tactic is to dash and then throw, let one all then dash back under cover to watch the fireworks from a safe distance.

HEAT SEEKERS - Have long range devastation can be achieved with these that almost any other weapons. Brilliant against enemy vehicles.

JEEP - Fast, manoeuvrable and fun. Use them for quick attacks. Mounted with an anti-air cannon you can shoot the silver guys or, better yet, just run them down. Remember kids - don't try this in your dad's Range Rover!

SKIDOO - Our enemy scenario sees the team stuck in a maze-like forest with the only way out over a series of low ramps. Evil! Knew it!

TANK - Tough but not indestructible. Some enemy tanks are so armoured that only a shell collected from one of them will penetrate it. The morale of soldiers equipped with tanks is so high.

HELICOPTER - If you feel you're above all this violence, you can be, literally, with the Trooper. Flying above the action means you can strike the ground yet be immune to most returning fire except the rockets and anti-aircraft.

CANNON FODDER

I can't camouflage my feelings about this game. I've just got to shoot my mouth off. *Cannon Fodder* is the best I've seen since gunpowder. It's bloody brilliant. It's better than sex. But, that's enough adulation (and bad war puns - Ed) for now. So, what's it about? Simply put: shooting, shooting, more shooting and, just for a change, a few explosions. That's it. No fancy storylines. No deep and meaningful scenarios. Just grab a handful of recruits, drop them in a war zone and then blast everything in sight.



You can call up a map at any time. It's not terribly detailed, but it does give you some idea where the hills and bushes are.

WEIGHT WATCHERS

Weighing in at three disks, *Cannon Fodder* is a hefty game indeed. There are 24 missions awaiting your soldiers, each with between one and six phases. In total you'll have to waste your way through 76 scenarios, each featuring their own surprising regular variations. So the *Cannon Fodder* veterans are something to do with the fact that I have throwing grenades at them.



one problem: you're rarely in the lead. The early operations involve sending the team on a straight 'shoot everything' mission.

'Slight' assignment. Later on, though, they'll have to rescue hostages, protect civilians and kidnap opposing soldiers. When you realise that one stray bullet, from either side, hitting a civilian is all it takes to lose the phase, you'll see just how tough the game is. To crank up the challenge element you only have 15 new recruits per mission. And, as you're guaranteed to use a good number the first time you try the mission, even experienced players are going to take a couple of weeks to complete the game. Believe me, by the time you reach the seventh mission you'll be cursing your lack of mouse control. I played it with a 400DPI mouse and still got wasted! Speaking of controls, even a

total enemy force are heavily justified. The only way you can kill them off is with a heavy weapon. A good gun emplacement, complete with a phone could be a great way to kill them. Just point the mouse where you want to go, left click, and they'll shoot at that point.

Bullets are unlimited but there's also a fixed amount of secondary weapons. Firing them is easy too. Right click on the target and then left click at the same time to release one. It's tempting to let rip with all your weapons early on, but that would be a waste. And some missions need you to carefully control your resources.

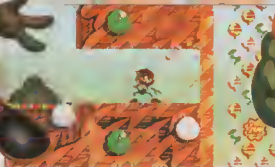
For instance, one objective could be that you have to blow up all the enemy's huts. This is not possible with bullets alone.

GORE BLIMEY!

You don't get to choose the size of your squad in each phase, that's done automatically. It's not a problem though: as the Sentinel says, have

ZOO L 2

The ninja that doesn't resemble an ant is back. And this time he's brought a friend Jon Sloan joins the party.



The problem with introducing sequels to games is that people tend to expect part 2 to be better than the original. I mean, with all the lessons of the last game learnt, you'd think that some improvements should be made to the gameplay, graphics, sound et al. But with a game as good as Zool you've got a pretty tough act to follow. So you'd be lucky to reach the lefty heights scaled by that top platformer. Unfortunately, Gremlin seem to have fallen well short of that peak.

SEQUEL MANIA

This sequel once more stars Zeel, the Ninja from the Nih Dimension just this time he's brought along Zool, a female Ninja. The idea's just the same as the original with you (playing Zool or Zool) keeping about six huge levels in an attempt to catch up with Mental Block, an agent of the Beldie. I met two and Zeel's cute Bulbunny Kid. Apart from psychic knife-like lances which cut for the truly Angelpower lamps.

It wouldn't be a platform game without hidden rooms. Now certain blocks away and you'll discover rooms check full of Chyna Chut's lalys and logos. mysterious Krool who's intent on wrecking the equilibrium of the Nih Dimension. Yes, I know it's a load of pooch but somebody's got to write that kind of thing. Anyway, each level has its own specific theme ranging from Swamp Lake through Enberry Hill to.

The Crazy House. So, with each level you get a whole new graphic set and a completely different group of baddies, each one tied in with the background graphics. For instance, Bulbunny Hill is portrayed by flying light bulbs and light beams shooting desk lamps.

whilst Swan Lake is full of dive bombing birds and aggressive half hatched chicks. It's a great way of keeping your interest peaked as each stage demands a different means of attack and defence. It's no good blasting your way through the level meeting an enemy you must as Zool will quickly run out of energy (mind you it is good fun).

GREAT EXPECTATIONS

Expectations were running high in the office when we received this



DOUBLE DOG

As well as Zeel, Zool's brought along his dog Zool (sorry, is your dog called Zool or something?) to the Nih Dimension? It must be a pretty boring place - Ed., This two-headed mutant goes to play a role in Mental Block's downfall by starring in his own sub-game. To enter if you need to collect three Zool tokens

which are hidden about each level. Gosh enough said, at the end of that section, you'll be rescued off in Zool's game. My point for invention I'm afraid on it's simply another breakfast class. Guide Zeel off one right to keep a ball bouncing up destroying the coloured blocks above him. Every now and then a bonus level to the floor within Zool can assist to help Zool/Zeel in the next level.

In fact we had to fight over who would get the review. Sadly after loading it I noticed I lost that script. The whole thing screams of being rushed out in time for Christmas.

The graphics - some thing that Zool 2 was highly praised for - seem dull and lifeless by comparison. It's as though they were sketched by an art expert only to be coloured in by a ten-year old with less than a basic grasp of composition. The gameplay too, whilst competent lacks even a 10th of the sparkle that made the original so addictive. Possibly the only redeeming feature that could pull this game from the murky depths of mediocrity is the music. There's an eclectic range of tunes available - listen out for the mellow tones on level two. Overall, Zool 2 is a let down. The best that can be said is that it is a stunningly average platformer.

GREMLIN £25.99

A500 ■ A800 ■ A800 ■ A1000 ■
A1901 ■ A2901 ■ A3001 ■ A4001 ■

GREMLIN GRAPHICS, CARVER HOUSE,
2-4 CARVER STREET, SHEFFIELD S1
4FS. TEL: 0742 753423.

| | |
|-----------------------|--------------|
| RELEASE DATE | END NOVEMBER |
| GENRE | PLATFORM |
| TEAM | IN HOUSE |
| CONTROLS | JOYSTICK |
| NUMBER OF DISKS | 2 |
| NUMBER OF PLAYERS | 2 |
| HARD DISK INSTALLABLE | NO |
| MEMORY | 1Mb |

| | |
|-------------|------------|
| GRAPHICS | *****1170% |
| SOUND | *****1170% |
| LASTABILITY | *****1170% |
| PLAYABILITY | *****1170% |

A slightly disappointing sequel to the Amiga's top platformer.

OVERALL 76%

lay
n2

S

6.20
6.30
6.40
6.50
7.00
7.10
7.20
7.30
7.40
7.50
8.00
8.10
8.20
8.30
8.40
8.50
9.00
9.10
9.20
9.30
9.40
9.50
10.00
10.10
10.20
10.30
10.40
10.50
11.00
11.10
11.20
11.30
11.40
11.50
12.00
12.10
12.20
12.30
12.40
12.50
13.00
13.10
13.20
13.30
13.40
13.50
14.00
14.10
14.20
14.30
14.40
14.50
15.00
15.10
15.20
15.30
15.40
15.50
16.00
16.10
16.20
16.30
16.40
16.50
17.00
17.10
17.20
17.30
17.40
17.50
18.00
18.10
18.20
18.30
18.40
18.50
19.00
19.10
19.20
19.30
19.40
19.50
20.00
20.10
20.20
20.30
20.40
20.50
21.00
21.10
21.20
21.30
21.40
21.50
22.00
22.10
22.20
22.30
22.40
22.50
23.00
23.10
23.20
23.30
23.40
23.50
24.00
24.10
24.20
24.30
24.40
24.50
25.00
25.10
25.20
25.30
25.40
25.50
26.00
26.10
26.20
26.30
26.40
26.50
27.00
27.10
27.20
27.30
27.40
27.50
28.00
28.10
28.20
28.30
28.40
28.50
29.00
29.10
29.20
29.30
29.40
29.50
30.00
30.10
30.20
30.30
30.40
30.50
31.00
31.10
31.20
31.30
31.40
31.50
32.00
32.10
32.20
32.30
32.40
32.50
33.00
33.10
33.20
33.30
33.40
33.50
34.00
34.10
34.20
34.30
34.40
34.50
35.00
35.10
35.20
35.30
35.40
35.50
36.00
36.10
36.20
36.30
36.40
36.50
37.00
37.10
37.20
37.30
37.40
37.50
38.00
38.10
38.20
38.30
38.40
38.50
39.00
39.10
39.20
39.30
39.40
39.50
40.00
40.10
40.20
40.30
40.40
40.50
41.00
41.10
41.20
41.30
41.40
41.50
42.00
42.10
42.20
42.30
42.40
42.50
43.00
43.10
43.20
43.30
43.40
43.50
44.00
44.10
44.20
44.30
44.40
44.50
45.00
45.10
45.20
45.30
45.40
45.50
46.00
46.10
46.20
46.30
46.40
46.50
47.00
47.10
47.20
47.30
47.40
47.50
48.00
48.10
48.20
48.30
48.40
48.50
49.00
49.10
49.20
49.30
49.40
49.50
50.00
50.10
50.20
50.30
50.40
50.50
51.00
51.10
51.20
51.30
51.40
51.50
52.00
52.10
52.20
52.30
52.40
52.50
53.00
53.10
53.20
53.30
53.40
53.50
54.00
54.10
54.20
54.30
54.40
54.50
55.00
55.10
55.20
55.30
55.40
55.50
56.00
56.10
56.20
56.30
56.40
56.50
57.00
57.10
57.20
57.30
57.40
57.50
58.00
58.10
58.20
58.30
58.40
58.50
59.00
59.10
59.20
59.30
59.40
59.50
60.00
60.10
60.20
60.30
60.40
60.50
61.00
61.10
61.20
61.30
61.40
61.50
62.00
62.10
62.20
62.30
62.40
62.50
63.00
63.10
63.20
63.30
63.40
63.50
64.00
64.10
64.20
64.30
64.40
64.50
65.00
65.10
65.20
65.30
65.40
65.50
66.00
66.10
66.20
66.30
66.40
66.50
67.00
67.10
67.20
67.30
67.40
67.50
68.00
68.10
68.20
68.30
68.40
68.50
69.00
69.10
69.20
69.30
69.40
69.50
70.00
70.10
70.20
70.30
70.40
70.50
71.00
71.10
71.20
71.30
71.40
71.50
72.00
72.10
72.20
72.30
72.40
72.50
73.00
73.10
73.20
73.30
73.40
73.50
74.00
74.10
74.20
74.30
74.40
74.50
75.00
75.10
75.20
75.30
75.40
75.50
76.00
76.10
76.20
76.30
76.40
76.50
77.00
77.10
77.20
77.30
77.40
77.50
78.00
78.10
78.20
78.30
78.40
78.50
79.00
79.10
79.20
79.30
79.40
79.50
80.00
80.10
80.20
80.30
80.40
80.50
81.00
81.10
81.20
81.30
81.40
81.50
82.00
82.10
82.20
82.30
82.40
82.50
83.00
83.10
83.20
83.30
83.40
83.50
84.00
84.10
84.20
84.30
84.40
84.50
85.00
85.10
85.20
85.30
85.40
85.50
86.00
86.10
86.20
86.30
86.40
86.50
87.00
87.10
87.20
87.30
87.40
87.50
88.00
88.10
88.20
88.30
88.40
88.50
89.00
89.10
89.20
89.30
89.40
89.50
90.00
90.10
90.20
90.30
90.40
90.50
91.00
91.10
91.20
91.30
91.40
91.50
92.00
92.10
92.20
92.30
92.40
92.50
93.00
93.10
93.20
93.30
93.40
93.50
94.00
94.10
94.20
94.30
94.40
94.50
95.00
95.10
95.20
95.30
95.40
95.50
96.00
96.10
96.20
96.30
96.40
96.50
97.00
97.10
97.20
97.30
97.40
97.50
98.00
98.10
98.20
98.30
98.40
98.50
99.00
99.10
99.20
99.30
99.40
99.50
100.00
100.10
100.20
100.30
100.40
100.50



SPECIAL XMAS DEALS!!

LOWEST PRICES

BEST SERVICE

RAPID DELIVERY

GREY-TRONICS LTD



SALES HELPLINE 081 686 9973 / 081 781 1551

DISKS DISKS DISKS

100% CERTIFIED ERROR FREE

+ LOCKABLE BOXES

| | | |
|-----------------|-------------------------------|------------|
| 50 3.5" DS/DD | £21.99 + 100 cap lockable box | £25.99 |
| 100 3.5" DS/DD | £35.99 + 100 cap lockable box | £39.99 |
| 150 3.5" DS/DD | £55.99 + 100 cap lockable box | £58.99 |
| 200 3.5" DS/DD | £66.99 + 2X 100 | £75.99 |
| 300 3.5" DS/DD | £99.99 + 3X 100 | £110.99 |
| 400 3.5" DS/DD | £132.99 + 4X 100 | £147.99 |
| 500 3.5" DS/DD | £159.99 + 5X 100 | £179.99 |
| 1000 3.5" DS/DD | CALL + 10X 100 | BEST PRICE |

FREE LABELS + FREE DELIVERY BY PARCEL FORCE

1.5" DELUXE LOCKABLE BOXES

| | |
|---------------|-------|
| 40 Capacity | £3.99 |
| 100 Capacity | £4.50 |
| Add £3.10 P&P | |

1.5" LOCKABLE BOXES

| | |
|----------------|--------|
| 100 Cap Addups | £8.99 |
| 150 Cap Passos | £16.00 |
| Add £3.10 P&P | |

3.5" 10 CAPACITY BOX £1.50

AMIGA CD32

2 GAME PACK
OSCAR + DIGGER

£278.99

100 GAMES

YES 100 GAMES

£299.99

(BUY ONE OR NOT)

LIMITED STOCK HURRY!!! FREE DELIVERY

AMIGA 1200 PACKS

RACE 'N' CHASE

Nigel Mansell's 1st

AUTHORISED DEALER

£279.99

DESKTOP DYNAMITE

Word Works, Post Manager

Desktop Mail, Office Director

£319.99

+ 4 FREE GAMES (SEE STOCK LIST) + 4 FREE GAMES

ADD £15 FOR 2 MICROSWITCH JOYSTICKS
& 12 GAMES ONLY WHEN PURCHASED WITH AMIGA
1 YR AT HOME SERVICE

| | | | |
|-------|---------|-------|---------|
| 85Mb | £469.99 | 85Mb | £524.99 |
| 127Mb | £499.99 | 127Mb | £554.99 |

FREE DELIVERY

SPECIAL XMAS DEALS

12 GAMES FOR £14.99

Road to Hell, Tank Battle, AGA Tennis, Paction 92, Duel, Lemmingoids, Mouseman, Wizzy's Quest, Premier Pickle, Tangle, Super League Manager, Top & Flop

STARTING PACK £14.99 FOR

10 Disks, Mouse Mat, Microswitch Joystick, Storage box, Disk cleaner

AMIGA CABLES

| | |
|------------------------------|--------|
| Amigo to TV Scart | £10.99 |
| Amigo to Sony TV | £10.99 |
| Amigo to Amiga | £10.99 |
| Amiga to Tandem Port | £9.99 |
| Joystick Splitters (2) | £5.99 |
| Joystick Extension Lead 10ft | £5.99 |
| Daltec Lead | £4.00 |

DUST COVERS

| | |
|-------------------------------|-------|
| Amiga 1200/500/500P | £4.00 |
| Amiga 400 | £4.00 |
| Star/Citizen/Paragon Printers | £4.00 |

INKJET CARTRIDGES & REFILLS

| | |
|--|--------|
| HP Deskjet Black Ink Cartridges | £14.99 |
| HP Deskjet Black Ink Refill | £9.99 |
| HP Deskjet Black Dual Capacity Cartridge | £21.99 |
| HP Deskjet Black Dual Capacity Refill | £14.99 |
| HP Deskjet 5000 C Colour Cartridges | £28.99 |
| HP Deskjet 5000 C Colour Refill | £16.99 |
| Canon BJ 10e/10s Black Ink Cartridges | £16.99 |
| Canon BJ 10e/10s Black Ink Refill | £9.99 |

Add £2 for Delivery

AMIGA 4000

030/2Mb RAM 80 Meg £870.00

030/2Mb RAM 120 Meg £919.00

Add £175 for Extra 4Mb RAM

AMIGA 600

4 GAMES: Space Ace, Kick Off

2: Pipe Mania, Populous

Basic Pack £179.99

Wild, Weird, Wicked £199.99

Lemming pack + Dpmail III £189.99

FREE DELIVERY

PRINTERS

| | |
|--|---------|
| Paragon 2123 24 pin Colour | £214.99 |
| * FREE Wordware Word Processor MP £19.99 AS STOCK UNIT | |
| Citizen Swift 90 9 pin mono | £149.99 |
| Citizen Swift 90 9 pin colour | £209.99 |
| Citizen Swift 200 24 pin colour | £204.99 |
| Canon LBP 1750 9 pin mono | £124.00 |
| Commodore 1230 9 pin mono | £114.99 |
| Star LC24 30 24 pin colour + shaft loader | £224.99 |
| Star LC102 9 pin colour | £149.99 |

MONITORS

| | |
|-------------------|-------------|
| Cyromodone 1084 S | £179.99 |
| Philips 10131 | £199.99 |
| Commodore 1942 | PRICE CRASH |

FREE LEADS & DELIVERY

ACCESSORIES

| | |
|---------------------------|--------|
| 24" Disk Unit Cabinet | £2.99 |
| 1000 Lohk | £2.30 |
| 1000 Lohk | £10.00 |
| Amiga External Disk Drive | £54.99 |
| Paragon Mouse Pad | £12.50 |
| Universal Printer Stand | £4.99 |

ADD £2.00 FOR DELIVERY

ALL PRICES INCLUDE VAT & DELIVERY (unless otherwise stated) **CALL OR SEND CHEQUES/POSTAL ORDERS TO**

GREY-TRONICS LTD, UNIT 1015 WHITGIFT CENTRE,

CROYDON, SURREY CRO 1UU

SALES HELPLINE: 081 686 9973 (Mail order prices only) **FAX: 081 686 9974**

All offers subject to availability. E&OE. Prices/Pack details may change without notice due to currency

fluctuation & working days for cheques to clear

MERRY CHRISTMAS



JETSTRIKE



Despite being able to pull off aerial manoeuvres the Russians would kill for you & inevitably hit something. Fortunately there's usually a parachute to hand.

ALTERNATIVE OUT NOW £25.99

More a flight-panic than a flight-aim, Jetstrike takes an unusual side-on scrolling view to depict the action. It casts the player up as an ace fighter pilot working for an elite task force whose aim is to rid the world of S.P.U.D.D. (The Society of Particularly Underachievable Dastardly Dudes). S.P.U.D.D. wants world domination and you're the only one standing in their way. So, the plan is that you carry out a series of strike missions against S.P.U.D.D. bases. You have a selection of aircraft at your disposal ranging from small Weasex helicopters to super fast SU-27 Flankers. The missions vary from rescuing spies to blowing up radar stations – all in the name of peace.

Jetstrike is a funny old game. The control system is quirky in the extreme. For instance, when you're flying right to left you climb by pulling down, but switch left to right the controls are reversed. So, in the middle of a dogfight you can find yourself heading for the ground at an enormous rate simply by rotating the stick. Very confusing. As for the graphics, well they belong firmly in a PD computer. It isn't a £25 plus product. Criticism aside for a second, Jetstrike is actually quite fun to play. If you grab a minute and try the Asymptote option (i.e. you take time to fly through a devious course of balloon targets, etc.) you'll find yourself soon dragged into the action. The problem is it just isn't worth £25.99. Had it been released at a budget price then I would heartily recommend you buy it and the score would reflect this. As it is, though, don't bother.

Jon Sloan

50%

Watch out for any swooping balloons



Even from a distance to attack the ground targets. Watch out for tanks sneaking up though.



Some levels contain secret hidden rooms which, once revealed and collected, will carry you to the end of the level

MAGIC BOY

EMPIRE SOFTWARE OUT NOW £25.99

Frantic, frustrating and fun are three words I could use to describe Magic Boy, Empire's new platform puzzler.

The aim of the game is to help Hewlett the wizard's apprentice recapture the magical creatures he's accidentally released. The monsters have escaped into four different worlds: Sand Land, Wet World, Plastic Place and Future Zone. As each world has eight levels and you visit them twice, Hewlett's going to have his work cut out capturing the escapees in the required time limit.

To aid him in his efforts he has a magic wand and bag. He can zap the creatures with a magical bolt and, while they're stunned, stuff them into the bag. Pulling down on the joystick at this point will send them tumbling back to their perch at the bottom of the screen.

It is a bright and colourful game with cartoon-like characters and a chirpy, though eventually grating, tune. The gameplay is tough with the devious level design making for some frustrating action. Some levels have been constructed so that there's only one way to complete them so, should you take a wrong route on one, you'll be unable to complete it. Although you can restart if you do lose your bonuses which is irritating. On the whole it's been well coded although Hewlett himself moves like he's in traction.

If you've a high tolerance level and aren't prone to smashing your Amiga every time you lose your rag you'll be okay with this game. Those less easily tempted will find it induces uncontrollable rages – as the games room at CU Towers can testify. It's hard but fun.

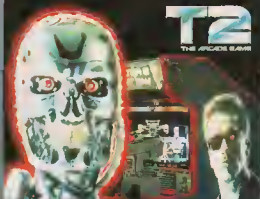
Jon Sloan

80%



Utilise those craftily-paced springs to reach the higher platforms. Joystick control is fiddly here so be careful which way you push

**"WAIT 'TILL YOU SEE
THE REDS OF THEIR EYES..."**



BRAND INTERACTIVE STUDIOS presents a **NEWMARKETWORKS** production A **PRIMA** film "TECHNOMAGIC 2: MATH" (AMPHITHEATRE) **MIKE GUNNING** (DICK HELLER) written by **BOB DUMMAGE** stars **WILLIAM BACALOV** starring **CHRISTIAN CLE** music score **TIM BOD** cast **JR KING** **MARK NORD** **JOHN JAY** cast **"TECHNOMAGIC 2: MATH" cast** starring **JERRY WEINER**

447

making is copyright © 1999 by J. K. Stille, Inc. All rights reserved. No part of this publication may be reproduced without written permission from J. K. Stille, Inc.

Some days never

ALI 3

THESE RESULTS ARE
THESE RESULTS ARE
THESE RESULTS ARE

445-450

Available in paperback

Now showing on PC & Amiga

Now sb

THE NEW YORK PUBLIC LIBRARY
ASTOR LENOX TILDEN FOUNDATION
1054 FIFTH AVENUE, NEW YORK, N.Y. 10028-2479

MORTAL KOMBAT

WOMEN INTERACTIVE ENTERTAINMENT PRESENTS A HOLLAND/NEWMAN PRODUCTION A PROBE FILM
LIE TOL, AND JAPPENDT, ANNEKE WINDOYCK, PETER DALL, MARGOLTA ET JORIE THOMAS
DIRECTED BY HANS-CHRISTIAN SCHMIDTKE
CASTING BY HANS-CHRISTIAN SCHMIDTKE
PRODUCTION DESIGNER PALL SULEZ

4000
4000

Strong, R., registered trademark of Strong Performance, Inc. © 1999 Intelle Performance, Inc. All rights reserved. Strong Performance is a trademark of and Intelle Performance is a registered trademark of Strong Performance, Inc. All rights reserved. All other trademarks are the property of their respective owners.

Now showing on PC & Amiga

Body Blows Galactic

The game that was once hailed as the Amiga's *Streetfighter 2* buster has returned in its second incarnation. This time it's on steps back into the ring.

Make no bones about it, *Body Blows* was a damn good game. *Streetfighter 2* may have had the hype, but *Body Blows* was this game designed for the Amiga. Naturally it sold in ship loads, and deservedly so, as well as earning Team 17's reputation even higher up the ladder. This Christmas the story continues with *Body Blows Galactic* - not so much a sequel note a new version of the original.

NOTHING CHANGES

Essentially only the graphics have changed. The game is exactly the same in most respects, other than the fact that this has 11 new characters, all with new moves and special abilities. The basis of the game is much the same, with you fighting your way through 12 opponents to receive massive congratulations at the end. We've all seen that even up, and we all know how they work. After *Streetfighter 2* and *Body Blows* you could do to yourself thinking

that they've gone as far as they can. Unfortunately, you'd be right, *Body Blows Galactic* is a step in the wrong direction.

The first big problem is the list of opponents. When you are fighting against human (or at least humanoid) opponents, you can feel that you are attacking someone. There is some gratification to be had from kicking someone in the teeth/chest/groin, and this makes the game all the more exciting. When you are fighting against a ghost, a robot or some strange creature made

up of bones, the game style instantly loses all character. There is little enjoyment to be gained by kicking a robot in the chest. After all, robots can't feel pain.

MISSED ME!

The next problem comes with the playability itself. I found the collision detection extremely frustrating. Half the time you can hit or be hit by something that, by rights, you shouldn't be able to reach. I also found it galling that although half of the moves involve leaping in the air, it is far too easy to be hit, but very hard to actually land any points yourself.

Not that I'm saying the game is difficult. I finished it fairly first go using only one move. Making it to be a *Body Blows* put the game on its third level on and again and

INDIFFERENCE

Team 17 have used it to release two other versions of *Body Blows Galactic*. One is for Amiga machines and makes use of the machine's 256 colour capability. The other is for non-Amiga and features standard 32 colour mode graphics.

The interesting thing is that the 32-colour version actually runs a lot faster than the Amiga one, and it is also marginally more playable.

JUNIOR

Junior is one big, bad dude and no mistake. Training in the art of Aikido, which typically translates as 'let you hit my spinning arm', Junior has just gained his big belt. That gives him brute strength, but he won't dwell on those, his Aikido style is pretty special, leading out with old punches of doom.

DANNY

Based on our own Mr. Gillingham, Danny is small, hard, has a great belt, and is a bit crap when it comes to leaping up anything more than half his height. He has a fairly standard set of moves, although his fireball capability is impressive. Mind you, it's nothing compared to the other characters.

PUPPET

If I could head out on a mission, in this game, Puppet would win the award for having the most interesting, both out of a collection of moves. Puppet has the longest reach in the game, but it's the slow. Easy to link to the, but not too easy to defend against, he's worth watching.

AZONA

I used to think that female characters were always the best to play in these games. However, enterprising Azona is another, I take it all back. Azona is a waste of graphic data. Most of her moves involve either jumping or swinging around on a chain while distanced with no wheels.

ALIEN BREED 2

TEAM 17 OUT NOW £25.99



A If you non-AGA owners will have been drooling and dribbling over this one for the last month. Well a whopping great 85 per cent from Jon Giblin last issue, *Alien Breed 2* is taking about a new level. Now it

17 have released the non-AGA version, and, surprisingly, it's actually a better game. My only problem with the AGA version is that it is far too hard, and this version is just that little bit easier. Why? Well the lower colours (but very cleverly used) can be seen a little better, and there are actually fewer aliens on screen at any one time, so there's a slightly less chance of you getting totally obliterated in the first few minutes.

Don't think that, though. It's true. You still have to be a little bit of an Alpha Five to wipe out an

GIVE "EM SOME KIXX

AND KNEE DROPS
AND POWER SLAMS...



STREET FIGHTER II™



SPEEDBALL™ 2



X-MEN 2™



JAMES POND 2 - ROBOCOD



S.W.I.V.

FORMAT AVAILABILITY AND RRP's

| | CBC | EPCC | GM | AT&T | AMBL | RLP |
|--------------------|-------|-------|-------|--------|--------|-------|
| STREET FIGHTER II™ | £3.99 | £3.99 | £3.99 | £14.99 | £14.99 | £4.99 |
| SPEEDBALL™ 2 | £4.99 | £4.99 | £4.99 | £4.99 | £4.99 | £4.99 |
| X-MEN 2™ | £4.99 | £4.99 | £4.99 | £4.99 | £4.99 | £4.99 |
| ROBOCOD | £3.99 | £3.99 | £3.99 | £3.99 | £3.99 | £3.99 |
| S.W.I.V. | £3.99 | £3.99 | £3.99 | £3.99 | £3.99 | £3.99 |
| RICK DANGEROUS 2 | £3.99 | £3.99 | £3.99 | £3.99 | £3.99 | £3.99 |

SEND A S.A.B. FOR A FREE CATALOGUE



RICK DANGEROUS 2



VIDEO CASSETTES BY S.A.B. & L.P.S. CARSON CO. LTD. All rights reserved. CARSON CO. LTD. 1991. VHS CASSETTES BY CARSON CO. LTD. All rights reserved. All distributed under license from CARSON CO. LTD. by KIXX. SPEEDBALL 2 and X-MEN 2 are TM & © MARVEL. All rights reserved. STREET FIGHTER 2, ROBOCOD, S.W.I.V. and RICK DANGEROUS 2 are TM & © L.P.S. CARSON CO. LTD. 1991. All rights reserved. RICK DANGEROUS 2 is a TM & © L.P.S. CARSON CO. LTD. 1991. All rights reserved.

KIXX, Units 2/3 Holford Way,
Holford, Birmingham B6 7AX.
Tel: 021 625 3311 Fax: 021 625 3312

VFM



BUDGET

Get 'em while you still can punters, 'cos the VFM gurus are here again with their selection of cut-price games.

TORVAK THE WARRIOR CORKERS OUT NOW £9.99

It's the same old story – the hero's family have been massacred by a marauding band of goblins. So, sweating revenge, he's grabbed his axe and set off to track them down. Thus, the scene is set for another crap platform bashed kick 'em up. You know, I blame Arnold Schwarzenegger for the amount of god awful hack and slash games on the market. If he hadn't starred as Conan The Barbarian I'm sure there wouldn't have been such a resurgence in the genre. A fitting punishment would be to make him play every one of them.

I can't think of anything decent to say about Torvak. The spartan scroll so slowly they act like they're on Velium. The liebutton response is so lardy that you can hit it two or three times before Torvak swings his axe. And the graphics and sound are basic in the extreme with in-game tunes non-existent. All in all a dire package with absolutely no enjoyment value.

Avoid at all costs
Jon Sloan



Down in the caves the goblins are lurking – probably having a really amiable Trust Torvak the Tax Surcharger to break it up

21%

Goblins using a bit of a gimmick... Torvak can display the old bit of greatly-defying jumping. Being your starvation you die – and you get a more powerful bit.



WAR ZONE CORKERS OUT NOW £9.99

I've always had a thing for top-down blasters. Ever since I played a coin-op called Heavy Barrel I've been addicted to the things. The aim of all these games is simple – run up across the screen, mow lots of nice people, then kill them. Along the way there'll be the odd weapon power-up and extra energy to collect. That's about it really.

War Zone is no different. You get to play a stripped to the waist warrior (Rambo has a lot to answer for) as he journey's across five levels of jungle, swamp and sewers before reaching the enemy base. The enemies you'll face range from easy-to-kill cannon fodder soldiers up to huge battle tanks that need multiple hits from a bazooka to even scissor.

Of all the recent Corkers releases this one has to be my favourite. It is not special by a long way. The graphics are basic, the sounds limited to explosions and bullet effects and the feel is dated. Overall though, it's a fun game to play, especially with two players working together.

Jon Sloan

81%

All good war films have an attack on the beach somewhere in them. Here you want to see explode all drums to see if there's any greenies inside.



This guy's tough, you can't overrun him. Stand too close and blast away, it's your only chance.

CORPORATION CORKERS OUT NOW £9.99

Corporation was the first game to offer face digitisation. What this boiled down to was customers sending a picture plus statistical details (height, weight, skills, etc.) to Core Design who would customise the purchaser's game so that he/she became a character in it. You would see everything from a perspective identical to the one you view the real world from. This gimmick has been copied since then by, most notably, US Gold with Legends of Valor. But Core were the first!

Apart from the neat marketing play, Corporation is a standard 3D adventure game. Your character is dropped onto the top of the UCC building with a mission to reach the lab at its base to get some evidence. It is believed that UCC has been genetically engineering illegal mutants for use as mercenaries and it's up to you to prove it. Of course, standing between you and the truth are 16 floors of robot and mutant filled hell.

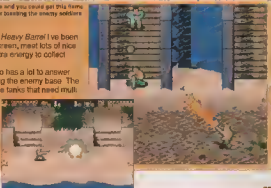
Instead of opting for the old linear movement (forward, back, left and right) you can walk diagonally, move and turn at the same time and crouch – just like real life. The downside of this freedom is that the game runs very slowly indeed, even on an A4000/40. If you can put up with this lack of vitality, Corporation is a cool game.

The graphics have a naughtiness that is rare outside PC adventure games and there is a certain atmosphere that's generated by the unusual plot and clever traps. For instance, the things you meet are not necessarily what they appear to be. On the first level there's a giant crab creature that won't die no matter how many times you shoot it. However, if you look carefully you'll see three projection lenses in the wall – these are creating the hologrammatic creature you're shooting. Blast them and it will disappear. An interesting and innovative RPG. Add it to your collection.

Jon Sloan

80%

Press your weapon up and you could get this thing. Precise. Very useful for loading the enemy soldiers.



COMBAT CLASSICS 2

EMPIRE OUT NOW £29.99

Combat Classics 2 features three of the best combat simulators to appear on the Amiga with, not surprisingly, two of them coming from the MicroProse stable. What a mix! Talk about planes, tanks and automobiles – this game should be renamed Planes, Tanks and Submarines!

First up, we've *F-19 Stealth Fighter*. MicroProse's not too far wrong guess at the then secret US radar invisible bomber. Although it uses the same graphic engine as a lot of MicroProse simulators, the game is radically different. It's more of a high speed racing into the target area, followed by loads of waster and extremely easy-to-spot combat and then paving a blazing trail home. *F-19* is more about hiding in corners, crawling along in tunnels and generally keeping out of sight. A lot harder than most, but more rewarding than most.

Then we come to the incredible *Pacific Islands*. Take four tanks and then win a war with them. It isn't the easiest game in the world, but then who said war was easy? (Cheer more circles, and you're out!) – *Ed/Jim* is a game that really put you in control of a tank, where a mixture of shaded polygons and scaled bitmap images gave a more realistic view of the outside world. Where real strategies took real planning, but ultimately win through, provided you have the guts to win through the actual combat. What can I say, other than it's one of my favourite games of last year.

Finally we reach MicroProse's *Silent Service 2*. *SS2* was a superb simulation in its own right, and this sequel takes everything that was good about the original and improves upon it immensely. It takes a while to get used to – and the action is limited due to the type of craft being simulated, but you could do a lot worse if you're looking for a decent challenge. All together, they make up one of the best compilations around this Christmas, and a bargain at the price!

Tony Dillon

89%

SUBURBAN COMMANDO

ALTERNATIVE OUT NOW £24.99

Film licenses like this one don't come around very often. Thank god! If any of you remember the film, this game is a lot worse. It starred ex-WWF wrestler Hulk Hogan, favourite of kids and grannies everywhere, as Shep Ramsey. This misanthropic hero starts the film by destroying the evil General Sutor's ship. Unfortunately, Shep's ship is damaged in the battle and he crash lands on Earth. Here he must find parts to repair his ship while fighting off the attentions of the bounty hunters sent to kill him.

The game follows the film fairly closely, with the first level comprising a scrolling shoot 'em up as Shep attacks the battleship. Once this level is passed the rest of the game turns into a basic platform beat 'em up. First there's the battleship, then downtown L.A. and finally a half finished skyscraper. All along there are robots, guards, street thugs and bounty hunters to avoid or mop up on the nose. As an ex wrestler Hulk/Shep is handy with his fists and feet but his moves are limited to a punch, uppercut, sweep and flying kick. The enemies have a range of weapons at their disposal including lasers, rival guns, knives and batons. So, taking them out is usually a question of timing rather than steering in with lists flying.

The main spine moves like he's on ice but his animation is lively. The tenses may very well come from the film but I don't like them either. The game-

play is fast but uninspiring. Overall, it's not really worth the bother. If you're eight years old and still pining for the days Hulk took on The Nasty Boys in the ring then you'll find this nostalgic fun. Otherwise forget it!

Jon Sloan

Level one starts with a shoot 'em up. It's an important level. Look how awful you do here compared to how powerful you are in the latter levels.

68%

DINOSAUR DETECTIVE AGENCY

ALTERNATIVE OUT NOW £16.99



Dino Detective Agency is a very poor attempt to cash in on the still rolling Jurassic Park bandwagon. You get to guide Sherlock Ness, the famous dino detective, through four cases (or levels) that he's got to solve with the aid of his trusty camera. Missing the chance to introduce some sex into the storyline – you know, man in manual taking Inuit pictures – the four cases are boring in the extreme (focusing on missing badges, bank robberies, etc.)

The main sections of the game are platform based with various bad dinosaurs out to stop Ness. Every time they hit him he loses one life. The only way to stop this is to jump over or stun them momentarily with the camera's flash. Of course, you're only given a limited amount of flashes, but they can be topped up by collecting the bulbs scattered around the level. At the end of each level there's a shooting gallery scene where you guide a wobbly crasher around the screen in an attempt to get a full facial shot of the crook. Do it in the time limit and you're okay, fail and the game's over.

This game is a waste of a floppy disk. Crap animation, crap sounds and non-existent gameplay. If you can endure playing it for more than five minutes you deserve a prize. As an alternative to a slow, painful death buy it. On second thoughts take the slow, painful death.

Jon Sloan

20%



CHUCK ROCK

CORKERS OUT NOW £9.99

Chuck Rock has everything a good platform game should have: colourful sprites,

cute main character, loads of enemies and the usual nail plot. Nail plot – his

wife, Ophelia, has been kidnapped by Gary Gmies, so Chuck's out to get her

back. Unfortunately she's been spirited away across a hostile land which

is populated with loads of dinosaurs and most of 'em see Chuck as their

next meal. There's swooping Pterodactyls, charging woolly

Mammoth and a huge Triceratops – all out to get him. Luckily, he's a pretty

versatile caverman. First, he's got a secret weapon down his pants. Can

you guess what it is? That's right – his belly. His giant gut can bounce

enemies right off the screen. And he can also throw rocks at them as

stepping stones to reach higher platforms.

Despite having only five levels, it's a pretty big game. There's loads of sub

sections for Chuck to complete, hundreds of dino to avoid and the odd puzzle

to solve. As it's an action-orientated game the puzzles are basic, and mostly

involve throwing a rock or belly butting something. There's a great cartoon feel to

the game with the dino spitting lava teeth, pulling massive hammers out of

nowhere and rocks that suddenly sprout legs.

Chuck Rock's a game that every joystick waggler should have in their col-

lection. It's the kind of game you can pick up, have a quick play with

then put away for a couple of months. Definitely worth a tenner.

Jon Sloan

80%

AMOS-The ultimate programming tool



Easy AMOS

- An ultra-friendly easy-to-use beginners' guide to programming.
- Helps you create impressive graphics, scroll text and add music to your creations.



AMOS Professional

- Essential for the more experienced programmer.
- Vastly enhanced version of the original AMOS.
- Includes 650 page manual to get you started



AMOS Pro. Compiler

- Gives your creations a kick-start
- Simple to use - compiles in seconds
- Includes latest update to AMOS Professional

Write programs, create games, produce impressive graphical effects, scroll text, the list is endless. If you're a complete beginner or an advanced programmer, AMOS is for you

Your AMOS Specialist Dealer

Wales

Manc Computers

0792 447990

Midlands

Carticus, Marnhill

0384 251659

Coverly Computer Centres, Coventry

0203 221081

M.T.S. Kalamander

0542 765451

Miles Bazar Software, Coventry

0542 444580

Softly, Milton Keynes

0508 070630

Spa Computers, Lutterington Spa

0926 317618

Town Computers, Harley

0782 387240

North West

Bolton Computer Centre, Bolton

0204 891937

Burnley Computer Centres, Burnley

0282 34772

Cash Computers, Lancaster

0529 61133

Computer World(UK), Bolton

0204 495511

F.V. Computers, Accrington

0254 235145

VarData, Ashton Under Lyne

061 327 0136

VarData, Stockport

061 477 4739

Yorkshire

Computer Store, Wakefield

0924 290159

Computer Store, Middlesbrough

0484 514405

Computer Store, Doncaster

0132 252340

Computer Store, Leeds

0532 475094

Computer Store, Rotherham

0942 545121

North East

CHPS Computer Store, Middlesbrough

0467 757509

CHPS Computer Store, Stockton-on-Tees

0612 418254

Topick, Stockton-on-Tees

0612 470003

Tanquerus World, Hull

0482 24867

South East

Comsol, Chichester

0242 252767

Computer World, Canterbury

0227 736708

Devon

Devasa, Torquay

0326 870176

Essary Computers, Seabrook-on-Sea

0792 414131

Gamer, Brighton

0373 720481

Hobbyist Computers, St Albans

0773 856605

Index Software, Tooting, Surrey

0892 511542

Logic Sales, Chesham

0492 425323

Logic Sales, Pinner, Middlesex

0773 347476

Platinum Personal Computers, Rayleigh

0245 778809

Platinum Personal Computers, Leigh-on-Sea

0702 471062

South West

AAC Computers, Ashford

0352 319140

AAC Computers, Aylesbury

0426 541167

Burmes, Exeter, Devon

081 246 5741

Baroness, Exeter

081 246 5741

For your nearest game dealer telephone Head Office on: 081 974 1555

| | AMOS | AMOS Compiler | AMOS 3D | Easy AMOS | AMOS Professional | AMOS Pro. Compiler |
|--------------------|------------|---------------|--------------|--------------|-------------------|--------------------|
| AMOS | | Compatible | Compatible | | Upgradable | Compatible |
| AMOS Compiler | Compatible | | | Incompatible | Compatible | Upgradable |
| AMOS 3D | Compatible | | | Incompatible | Compatible | |
| Easy AMOS | | Incompatible | Incompatible | | Upgradable | Compatible |
| AMOS Professional | | Compatible | Compatible | | | Compatible |
| AMOS Pro. Compiler | Compatible | | | Compatible | Compatible | |

To check compatibility, select an AMOS product from the left hand column and read across.

To find out more about AMOS telephone
Europress Software on 0625 859333

EUROPRESS
SOFTWARE

Europress Software, Europa House,
Aldington Park, Main Industrial Estate, 47NP
Tr1 1PQ. Tel: 0625 859333. Telex: 0625 859444



VAMP

If you're looking for adventure you've come to the right place darlings. Each month, I attempt to answer your RPG and adventure enquiries - in the best possible taste of course!

LEGEND OF KYRANDIA

I'm completely stuck in the Legend of Kyrandia. I've been told to go to Faenwood by the wizard, but I can't get through the caverns because I can't get across the Chasm of Everfell. I have a spell that makes me go cold and some sort of musical pipes. So far, I have found the stones which release the trap and I have found the Pantheon of Moonlight. In this place it would appear that I have to insert something into the hole in the altar, but I don't know what to stick in it. Can you help?

L. Grynlch, Hornham.

You have come this far, you have obviously approached how to use the fire berries to light up the caves, so leave the Pantheon and continue to map the cave until you find the Cavern of Twilight. Here, you can pick up a can.

You said you have already found enough stones to throw into the basket to open the trap which seals the cave's entrance, so I suggest you go back to the outside world and drink for a moment. You've got a can. Now let her tell you what you know what to do with it.

THE SECRET OF MONKEY ISLAND II

In the Secret of Monkey Island II, how do I retrieve the piece of the map from Governor Morley's mansion after it's blown over the cliff?

Laura Adams, Reineham.

When you slipped smartly through the mansion's kitchen with that angry cook at your heels, did you think to pick up the fish that was lying there? If you did, you have all you need to make a trap with the angler on Phantom Island. The fishermen haven't pulled anything all day (despite his big, impressive rod), so it's up to you to get a hold of it and see if you can think of a better use for it. (Answers in a plain envelope please.)

THE SECRET OF MONKEY ISLAND

On Monkey Island, how do you get past the troll who is asking for a toll?

Please if you can send a reply as soon as possible.
Martin Goode, Hornchurch.

Anyone who has ever been French-kissed by a troll will tell you that it's not a pleasant experience. The reason is that trolls eat a lot of fish and their breath smells like a fishmonger's handkerchief. By now, the most readers will have guessed what the troll wants in payment, but just for you I will elaborate.

At the rear of the Swamp Bar there is a fish hanging on the jett. By stepping repeatedly on the loose plank you can scare away the greedy sea-gull and pick up the fish for yourself.

P.S. Just to reiterate that I'm not suggesting that you eat the fish and then French-kiss the troll. Don't you?

INDIANA JONES AND THE LAST CRUSADE

My adventuring problem lies with Indiana Jones & the Last Crusade. I have allowed the keg of bees to empty onto the floor without firing the steam first. I have tried leaving the game running for hours in the hope that the keg would refill, but alas it does not.

There is no way to progress any further in the castle without the benefit of the beer. For example, I need to pour it onto the hot coals, and to disable the alarm system. Please don't say I have to go back to the beginning because I have no save game files. If you can offer no solution then please publish my phone number in the hope that someone may have a disk with a suitable save game. They can lend me.

Kelth Thornton, Essex.

You are quite right that you need some beer from the barrel to put out the fire and disable the alarm, but this game is fairly fast at letting you do things by another path.

The main use for the beer is to get meat for the dog, then you can get the boxing trophy which you can fill with beer and give to Bull the Nazi. Having had a drink, Bull will think he's never the man, but in fact his performance will be seriously hampered (it's) that the same old

Adventure

AGONY CORNER

If you've got a problem of a more personal nature, you can get expert advice by writing to Vampyra's Agony Corner.

Q I've just read a 'how to do it' book, (actually it was nearly all pictures) and I was amazed at the physique of the guy in the photographs. Now I'm worried that I'm an abnormal shape.

A How does someone tied out if their equipment is adequate? I'm 18 and what I would like to know is, when does your 'equipment' stop growing?

A Your 'equipment' continues to get longer for as long as you are prepared to tie bricks to it. Don't worry about the guy in the photos I know for a fact that he wears lace underwear.

Q I am an 18-year-old female student, yet my father still insists that I can't stay out all night.

A I'm sure that a slight person like yourself would agree that this is unreasonable.

Q Could you reply and tell my father that I don't need to go to bed so early?

A I'm sorry, but I don't agree with you. No matter when I go out, I always try to be in bed before midnight. Otherwise, I go home!

short, girls? You could, instead, just fight your way past Buffy and forget the beer. It would be a tough fight but I'm sure you could do it if you thought I was asking for your opinion.

Hopefully that should save the day, so we don't need to publish your telephone number - I'll just keep it for myself.

GOING FOR THE JUGULAR...

I had love problems with Monkey Island, but after I saw your lovely pictures in the November issue of CU AMIGA I lugged all about my but dense problems. If you are Vampyra then I am Dracula. How about a date?

Damien Robinson, Swansea.

How sweet you are. How I do like all dark handsome men. Perhaps we could meet, but it could only be for just a quick bite.

WAXWORKS

I'm stuck in the Mine section of Waxworks. I'm trying to work out where the mutant's weak spots are. Is there some way to make the chemical spray last longer, so it leaves enough for the vines, pods and spikes? Uncle Bons is not much help.

I've really enjoyed this game so far, but it's becoming impossible. I know the whereabouts of the med-kid for the doctor, but by the time I get anywhere near it I've lost most of my hit points and I perish at the hands of the welcoming mutants.

Keith Ellis, Chalmersford

There are many ways to take a rest, so don't despair. In the mine you can find a generator full of gasoline. Climb on the generator's drainage hole and select open. (Use the screwdriver from the professor to do this bit.) Next, click on the trigger and dig it over the flowing gasoline. Once the trigger is full you can quickly refill the hole in time enough in the generator for a second refill. You now have two choices. You can either use the gasoline waste as it is, or use it with the lighter from the professor to make a wicked flame-thrower.

LEISURE SUIT LARRY II

I've been 'looking for love in all the wrong places' and getting nowhere. I'm stuck on the beach of the tropical island just wearing the bottom half of an itty wetski bikini.

The Russian agents won't let me pass them because it's obvious to them that I'm not a girl.

Terry Harvey, Penzance

Walking around in just your bikini bottom is fine if you have a figure like mine (I've got curves to give it where some girls don't even have places), but I suggest that you search the bottom of the ship's swimming pool to find something that will cover up your deficiency.

THE IMMORTAL

I am on the last level of The Immortal and I'm facing the dragon. Once I have used my six blink spells and fire protection I am done for.

I also have six statue spells, magnetic hands and sonic protection, all of which I've tried but none have helped.

Bett Higgins, Tasmania

I did love a small fiddle with this game, but I found I had to move too quickly. I do

Well all of this excitement has brought quite a flush to my cheeks, so I think I'll get out of these damp clothes and slip into a dry martini. See you next month. And remember, don't hesitate to write to me if you are having any problems with adventure games, RPG games and anything else that tickles your fancy. Write down your little problem and send it in a plain envelope to:

'Dear Vampyra'
CU AMIGA, Priory Court,
30-32 Farringdon Lane,
London EC1R 3AU.



like to take my own sweet time over things. When you load on the truck oct vote the black spell and the dragon will appear.

You must avoid the fire six times using the blink spell. The dragon will go on to breathe fire once more, but it won't manage it first time. (I'm not surprised if the poor thing has already managed it six times!)

As he starts to try again, activate the fire protection spell. Hold the amulet up to the light but do not read the runes. At this point the sword will appear.

Activate the statue spell and use this to protect yourself from the sword's lightning bolts. At the dragon's fourth attempt activate the sonic protection spell. Use the two remaining holy statues

to protect yourself from the lightning and strong monsters.

After reading the sword's message, quickly use the magnetic hands to get the amulet from him. The dragon's next blast of flame will be so powerful it'll fry the sword in a crisp.

“As for the letter which I received from a naughty reader in Manchester, I'd just like to say that I don't believe that it's possible to do that. And even if it is, I'm sure it would ruin the custard!”



Helpline

You can't use Software this Powerful, and produce Documents this Good...

*Unless, you buy an expensive PC or Macintosh™,
a high priced Colour PostScript™ Laser Printer,
and a complex, costly Desk Top Publishing Package...*



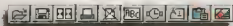
If you're looking for a quality Word Processor/Publisher that performs as well as this, you may well start by searching through PC and Apple™ Macintosh™ software catalogues.

Even then though, you probably won't find a program that will combine the very best in Word Processing and... easy to use integrated DTP type facilities.

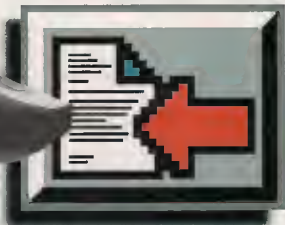
You certainly can't find software for your Amiga that's capable of all this...



...or Can You?



You Can Now... with New *Final Writer*TM



Put Your Finger on the Buttons of the Ultimate Amiga Word Processor



From the publisher of the acclaimed Final Copy II comes its new companion, Final Writer - for the author who needs even more! If you already use an Amiga Word Processor, it won't include the complete and comprehensive array of features found in this latest addition to the SoftWood family.

Can you Word Process...

Output crisp PostScriptTM font outlines on any graphic printer (not just expensive laser), and was it supplied with over 110 typefaces? Import, scale, crop, view on screen and output structured EPS clip-art images (Final Writer is supplied with a hundred), again, on any printer? Also create structured graphics and rotate them along with text in any angle, giving you DTP quality presentation? Provide a huge range of printing options (eg. thumbnails, scaling, crop marks etc. on PostScriptTM printers) and fulfil other advanced Word Processing functions easily such as automatic indexing, table of contents, table of illustrations and bibliography generation? With Final Writer, this

is now available in you along with a lot of features that just goes on and on. We know that you'll be impressed by this revolution in Amiga Word Processing, but don't be put off by it's advanced capabilities. With its complement of user definable Command Buttons and Super Manual, Final Writer is simply one of the easiest programs to learn and use.

Final Writer is not just a one-off product...

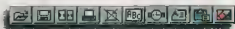
SoftWood are acknowledged as the World's leading software company publishing for the Amiga and no other system. So, if Final Writer exceeds your current requirements - whatever your Document Processing needs, whatever your Amiga - SoftWood will still have the Perfect Package for you...

Pen Pal or Final Copy II and Proper Grammar II...a Complete Range.

Once you become a registered SoftWood user, you'll gain access to unlimited free UK technical support (others often charge you or don't provide support at all) and preferential upgrades to future versions of these and other exciting new products being developed right now



SoftWood



Quality software for your Amiga

If you've outgrown your existing package ask about our 'trade up' options from your current Word Processor (other publishers' WPs are eligible too)

SoftWood Products Europe

New Street Alfreton Derbyshire DE55 7BP England
Telephone: 0773 836781 Facsimile: 0773 831040

Available from all good dealers or, contact us for a list of nationwide stockists.
All information correct at time of going to press. E&OE. All Trademarks acknowledged. The documents on the previous page you require on a laserfont Canon Bubble Jet

Mark & Address

please include your postcode
CUA

REVIEW OF THE YEAR

As the sun slowly sets on another product-packed year, John Kennedy takes a look back over the past twelve months and selects what he considers to be the high-points and low-points...

This was the year, that was — all 12 magazine-packed months of it. From the 'Get Serious' point of view 1993 was an excellent time to own an Amiga — lots of graphics, lots of new hardware and the brand spanking new A1200 was still warm and smelling of freshly baked plastic.

The new 16 milligig colour AGA chipset brought forth a rash of software upgrades and prompted several manufacturers to create video cards for those not wanting to dump older computers. At last the ageing Motorola 68030 was laid to rest as the standard Amiga CPU, and the fully 32-bit 68020 has become the entry level processor. The standard memory limits have also been upped to a sensible 2Mb, and probably the best Amiga ever was released — the CD32.

Much remaining and murmuring has accompanied the decline of the Amiga and Commodore in the US, but whatever the current share price, the CD32 is widely reckoned to be the machine to make or break the company.

Many promised hardware and software lines simply failed to leave West Chester, as all production was concentrated on the new Sega/Nintendo level II. It succeeds, which it deserves to, the Amiga will emerge stronger than ever before with a fresh user base eager to experience what the Amiga is capable of. It will fail, who knows. Perhaps we'll be using Falcons this time next year (hah!)

CU AMIGA 'GET SERIOUS' AWARDS 1993

As the only one sober enough to remember the past 12 issues with any clarity, it has fallen on my shoulders to select the items of hardware and software which I think deserve to be considered worthy of a level ennobled, 24-carat golden Get Serious status in the shape of Den Hoving his nose.

I've judged all the items from the current technological standpoint (and which have survived on my hard disk the longest), which may mean the scores received at the time of the review are in conflict with once other.

VIDEO Winner: RockKey

Runner up: Videomaster

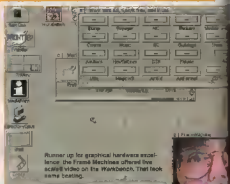
Docktop Video has still to reach its full potential on the Amiga, due in part to the high price of equipment. The RockKey Chromakey was an exception as it offered real live chromakeying affects at a fraction of the cost of other hardware. It's even cheaper now, which makes it remarkable value for money. Also amazingly affordable was the Videomaster digitiser, which managed to capture live video and sound at 25 frames a second on a standard Amiga. This amazing feat was only let down by software which didn't fully support the IFF animation standard.

HARDWARE AWARDS

GRAPHICS Winner: Retina/V-Lob

Nominees: Picasso II, Frame Machine

1993 saw an explosion in the number of graphics cards for the Amiga. Although the AGA chipset was standard to the low-cost A1200, existing A2000/A3000 owners had made large investments in terms of accelerators and hard drives, and needed a graphics upgrade. German companies were best at the price/performance ratio, and the pairing of V-Lob and Retina (April) as a 24 bit display and capture term gets my vote. The software appears to allow sequences to be taken from video lifts to drive all other cards. A close second was Picasso II (December) which also provided excellent results and the Frame Machine (September) which may have been the most tricky zero card to fit over, but offered very clever real time re-scaling of live video.



Runner up for graphical hardware accelerator the Frame Machine offered live scaled video of the Wandenberg that took some beating.

SOUND Winner: Technosound Turbo II

Runner up: OSS4+, One Stop Music Shop

There is still no definitive cheap 16-bit sound sampler on the Amiga, and although several have lined (Clarity, Maestro) the big shortcoming is always the software support. For 8-bit quality, Technosound Turbo II gets the prize, with the clearly-coded OSS4+ from GVP coming second. For bringing professional level sound (almost) within reach of ordinary Amiga owners, One Stop Music Shop gets an honourable mention.

COMMS Winner: GVP PhonePak

Runner up: US Robotics Sportster

In the October 'Wired World' article we looked at nearly every modem under the sun. Oddly, the winner isn't a modem, it's the GVP PhonePak which is an amazing card capable of answering the telephone, taking messages, giving messages and doubling as a FAX machine. It's an incredible card which deserves more attention than it's currently getting. The second prize goes to the Sportster modem, which consistently sent data the fastest and made the most reliable connections. It may look like a Stylophone, but it's a damn good modem.

ACCELERATORS Winner: M123DXA

Runner up: GVP1230

The A1200 is a hugely popular machine, which means there is a large market for memory and accelerators. GVP and Microbotics were two companies quick to offer an upgrade for this existing 68020 processor. The winner is the M123DXA

(July) from Microbotics, which can support up to 128Mb of RAM if you can afford the SIMMs. With this card, the A1200 went faster than the A4000/030 — a terrific achievement. The GVP card (April) was almost as fast, but cost slightly more and that's the only reason it was runner up.

MISC Winner: CD32

Runner up: Amiga 4000/030, Commodore 1942 Monitor

Much to everyone's surprise the successor to the CDTV, the eagerly awaited CD32 (August) turned out to be one hell of a machine. The marriage of a double speed CD-ROM drive to the colourful AGA chipset and CD32 means the CD32 is potentially the most powerful games console on the market. Commodore promised 70+ titles for Christmas, and although this target has not been reached there are still a lot of excellent games available. Mainstream games of the CD32 include a rather neat plastic case and the lack of serial or floppy disk ports. But at least the latter will be fixed by the forthcoming expansion unit. The Amiga 4000 launched late the previous year offered amazing power with its 68040 processer, but unfortunately was beyond the budget of many users. May saw the A4000/030, which used a much cheaper and slightly slower 68030 engine. The A4000/030 is the replacement for the A2000 and initial sales out-stripped supply.

To make the most of the new AGA flicker-free screen modes you need a VGA or multisync monitor, and one of the best is also from Commodore (a really good year for the leeches at Big C). The 1942 will display all screen modes at good resolution and even has a pair of stereo speakers for games players. Nice one.

SOFTWARE

GRAPHICS Winner: Real 3D v2

Runner up: *Amibase, DeluxePaint IV AGA*
Image recovery took a giant step forward with the introduction of *Real 3D v2* in October. Nothing in the previous releases could have prepared us for the 'real world' modeling features, including collision detection, gravity and motion blur. The depth of field and multiple mapping methods have made *Real 3D* the best my inner curiosity available. What the Amiga needed most was an off-palette way to make the most of the AGA chipset, and it got two. The old favorite *Deluxe Paint* (January) was updated to work with the brilliant color palette, but new boy *Amibase* (October) wanted the crown away from it with some incredibly fast operations.



Believe it or not, but I rendered this image using only *Real 3D v2*, the most important Amiga graphics program this year. (But only as an in-between). A rather polished job.

PROGRAMMING Winner: SAS/c

Runner up: *Blitz Basic 2*
March saw the latest upgrade to *Latex C* — it became *SAS/c* and even lesser. It is now the standard by which others are judged. For more basic programming, *Blitz 2* (April) offered incredible speed and some neat graphics and sound support.

SOUND Winner: Bars and Pipes Pro v2

Runner up: *Deluxe Music v2, OctaMED v5, SuperSound 4*
It may have been a pretty lackluster from the hardware point of view, but music software was thick as the ground. *Bars and Pipes v2* combined MIDI with multimedia in April and took first place. The runners up all made the most of existing Amiga sound capabilities to excellent effect.



CD-ROM software Winner: Amine! collection

Runner up: *CDROM*
The award for squeezing the most high quality software on to one disc goes to the Walnut Creek Amine! collection, which filled hundreds of megabytes with archived material from the world's largest Amiga PD collection (December). Amine!'s third volume of PD is more accessible, with more in the way of images and sounds (November). Both are a bargain, provided you have a CD-ROM player.

DTP Winner: PageSetter 3

Runner up: *The Publisher, Wordworth 2*
Gold Disk are still the bee's knees when it comes to DTP, and *PageSetter 3* (March) offered hundreds of features at a bargain price. The Publisher was so impressive that we actually reviewed it twice and is now at a new budget-busting price.

MOST LUSTED AFTER HARDWARE

The last year saw many exciting new developments, as well as a great deal of leasing. Along

UTILITY Winner: Cygnus Ed

Runner up: *Amibase & Amibase II, PC Task*
Fast, smooth, reliable and speedy fast, you can't beat *Cygnus Ed* (Professional October). Close runner-up was the *Amibase* pack (July) for recovering after hard drive mishaps.

Am-Back Tools - Copyright © 1992 Moonlighter Software Development, Inc.
Amibase II: Multi-Channel Processor



Although only runner-up to *Cygnus Ed* as most useful utility of the year, even this shot of Amibase is more interesting than it pictures of some last being edited...

came the CD32, but where was the FMV, first demonstrated to an unbelieving bunch of journalists? And what about the expansion for the A1200? Where will it leave existing A1200 memory expansions and accelerators? What about the hallowed Falcon-bearing Digital Signal Processor, the interchangeable graphics, the 16-bit sound?

PREDICTIONS

The next year will be make or break for Commodore. Assuming we're all here next year, here is what I predict I'll be writing about: MPEG will become more widely available and usable, as will decent 16-bit sound cards, affordable writable CD-ROM and CDXL (AGA) New high-end Amiga Workstations based on the AAA chipset will be launched with the home version running *Workbench* and *Windows NT*.

MOST UNDERRATED THINGS

After all we have been given to play with, there are a few items which seem to get a lot of bad press, or no press at all. *Arx* is still the unsung hero of AmigaDOS, and the A570 and CDTV CD-ROM drives died a most unnecessary death. The Internal IDE interface brought hard drives to more users than ever before, and all some folk can do is sniff and say 'should have been SCSI'. Finally, *CrossDOS* gets a mention for providing an easy to use bridge between the worlds of IBM and Apple.

GOODBYE TO...

Last year saw the departure from CU AMIGA of several talented people, as well as Nick

Veitch (can't remember where he went — the competition enters to the 11th hour is a trailer because...), competition where too numerous and time to print, Heather Tuiley (the melismatic figure responsible for getting copy in), Jon Sloan (who has had enough of games software to last him a lifetime — so he's going to work for a games software house) Tom (Chief Judge) Glenister, CU's ex-Ad Manager and our resident Night sim expert with the Biggles moustache to go with it, and finally, our beloved Publisher, Garry Williams the man with a heart of gold and an empty wallet when it came to getting a round in. We'll miss them one and all...

Combining MIDI music, Amiga samples and Amiga multimedia, *Bars and Pipes Pro* was the most interesting music program in 1992.

REVIEW OF THE YEAR

What a year! **WHAT A YEAR!** The CU Amiga team cannot remember a more productive or rewarding twelve months when it comes to Amiga games software. Here's our pick of the crop...



What can I say! The best game released in 1993 has to be the awesome *Frontier*. Five years in the making, it received the absolutely enormous score of 97 per cent in November's CU, along with a six-page review. The kind of game you can play for months without getting tired, *Frontier* is THE game of '93. Mind you, Bullfrog's *Syndicate* isn't too far behind. Hailed as one of the best games ever, this extremely violent mob-shootout has you searching a city, blasting innocent civilians and genocially re-enacting the most violent movies of your choice. Ninety-four per cent? Worth every one, in our opinion.

If helicopters are more your thing, then what about EA's stunning conversion of *Desert Strike*, surely one of the greatest Mega Drive games ever. Those Sega owners must have been turning in their graves when they realised that the 93 per cent rated smash hit was actually better on the Amiga! It had better explosions, better sound effects and better controls all round.

Speaking of better, one of our best topped this

previous best was *Gino Dini*, who released *Goal!* through Virgin this year (after splitting with Amiga and losing the *Kick Off* name into the bargain) to massive applause and bigger scores, taking in a massive 93 per cent.

For the less soccer minded, there was always *Sam Life* to fall back on. Reviewed back in May it was yet another game to score 93 per cent, and was the award for being one of the most complicated simulations ever. Take a life form, and evolve it on an ever-changing planet. Strange, but true.

If adventures are more your cup of tea, you could always delve into the large and glorious *Indiana Jones 2*. With over 400,000 views over a large variety of landscapes, this is one of the most challenging games to come out of France, and it also took a 93 per cent score home with it.

Later in the year came a clutch of more traditional games. September saw the release of *Soccer Kid*, and with it the promotion of Kinsella software to the top of the league.

A fun platform game, it used a football in a way never seen in an Amiga game before.

And what about this month? *Mortal Kombat* and *Terminator 2* appeared - two big hot arcade conversions from Virgin games scoring 93 and 92 per



cent respectively. One is the most hyped beef 'em up since *Streetlighter 2* and the other is

one of the best arcade machines to hit the shelves. Both of them have cantered to the Amiga beautifully, and doubtless both will end up in many a stocking this year.

1993 has to have been one of the best years for Amiga games ever seen. There are just too many games to men-



tion. How I would have loved to look about the terrific

Adrianissoft game *Waxworks*, which scored 91 per cent, or Team 17's *Body Blows* the *Streetfighter* beetle that also scored 91 per cent.

I didn't even have time to catch up with *Hard Gears*, yet another 91 per cent hit. With the new AGA machines beginning to take over as the base level for games, let's hope that '94 is even better! **CU**

THOSE THAT DIDN'T QUOTE MAKE IT

Not every game released last year scored so highly. Here are the five that didn't quite reach the top of the charts.

1. *Covergirl Strip Poker* 13%
2. *Super Sports Challenge* 14%
3. *Ruffy's Sporting Darts* 24%
4. *Super Challenge* 27%
5. *Firehawk* 32%

CU AMIGA PREDICTS

1. Commodore will finally release their high end AAA machines. Maybe.
2. David Braben will appear with the first *mission disk* for *Frontier*, and it will stay at number one for months.
3. Someone will figure out how to keep RAM in the transfer without slowing the PCMCIA slot.
4. A second card for the Amiga will be released.
5. David Pinesdale will get his own chat show.
6. Alternatives will create a game based on *Kluge*.
7. A leading Amiga magazine will run an eight-page feature spotlighting how to use all that music on an A500+ with a copy of *Easy Amiga*.
8. GVP will release a board that takes the A1200 into a Croy XMP 2. It will only cost £220.
9. Commodore will finally release a high-density disk drive for the A1200. Harrah.
10. *True Vix* comes to the Amiga. The headset comes bundled with the 3D Construction Kit.

WHAT WE DON'T WANT TO SEE...

1. Yet another David Pinesdale interview.
2. The A100. (A bypass running through Hampstead Heath).
3. Any more games with wacky bellows lettering.
4. Real 'em ups where characters say unispeakable things.
5. Any more CD shelves.

The Best Selling Word Processor and Database just became even better... **VALUE!**

Since its launch, Pen Pal has become the
most popular package of its type

Not surprising when you consider the extensive features at your fingertips, combined with user friendly simplicity, it was bound to be a winner! In a comprehensive Word Processor test, Amiga Format commented 'There is little to fault Pen Pal, it deserves to do well' - quite a prediction it seems! Format have since said that it's 'Still the best value for money...' If you're not a Pen Pal user yet, we hope you soon will be, because at just £49.95... the best just became better, even better value!

Pen Pal

A superb package, with immense power, to fulfil all your Word Processing needs, and... with an integrated Database too! It's all so easy to use, you'll rarely need to refer to the extensive 250 page lay-flat spiral bound manual. Users frequently tell us that they've never found a program they get on with so well.

Typewriting & Editing: You can... Open multiple documents simultaneously; search and replace; cut, copy and paste; check your spelling with a 110,000+ word dictionary; import your favourite IFF/PICT graphics from programs such as DPaint, or Clip Art files in various sizes and colours; automatically flow text around graphics in any Workbench compatible font (there are over 200 available styles) in different sizes and colours to suit your design... Even as you type!

Full Page View with pointers, edit and creation of graphic objects and extremely useful forms designer. All this from a word processor and... Much, Much, More! As you can see from the documents shown on the left, this is no ordinary program!

1100 DATABASE: With 32 fields per record, 32,000 records per database and a fast sort of 1000 records in less than 5 seconds, this is a real database. Mail merging into the Word processor couldn't be simpler, with easy creation of templates for letters or reports, into which information can be merged.

AND... Remember, Pen Pal comes with full support for the new or experienced user completely free! Friendly help for all registered owners is just a phone call away.

SoftWood - Quality software for your Amiga

With PenPal you're not just getting a one off product! SoftWood are acknowledged as the World's leading software company who develop just for Amiga and on other systems. Once you're a registered SoftWood product owner your involvement is protected as you'll have access to unlimited free technical support (others charge you) and preferential upgrades to other SoftWood titles. Book editing and format. Existing new products are being developed right now. Pen Pal - your first step into the SoftWood world of Amiga software.

Pen Pal is available from all good Amiga software Dealers or from SoftWood. Call for your list of stockists.

SoftWood Products Europe
PO Box 19 Alfreton
Derbyshire DE55 7RW England
Tel: 0773 836781 Fax: 0773 851040

Pen Pal is compatible with all Amiga from 500 to the latest A1200/A1300 ranges with a minimum of 1MB available free memory.



MediaPoint™

multimedia magic for the Amiga®

MediaPoint is the state-of-the-art in interactive presentation software. No other software package on the Amiga has this many features in the standard package. Some of the highlights:

MediaPoint is professional:

- Script synchronization on standard time, SMPTE and MIDI.
- Play full motion video and samples from harddisk. Supported animation formats: anim-5, 7 & 8 and (AGA) CDXL.
- Over 150 smooth screen and object transitions.
- Use buttons to create interactive scripts for mouse, keyboard and touch screen.
- Script events can be scheduled to be displayed on specific days and times.
- Use ScriptTalk™ language to create customized scripts with variables, conditional jumps and ARexx support.

MediaPoint is easy to use:

- Cut, copy, paste and undo for all page and script editor functions.
- Script parts can be collapsed and exploded.
- Text editor allows a different font, size, color and style per character
- Antialiasing per character color, not to just one color.
- Frame-oriented page editor with solid, pattern and transparent frames. Over 50 frame transitions.
- Duplicate, centre, align, lock and group move functions for frames.

MediaPoint means good looking, fast graphics:

- Import any Amiga graphics file including 24 bits
- Scale and remap to any (AGA) graphics mode.
- Save page layout including text and graphics for use in other scripts.
- Ready to use clipart, maps, pictograms, fonts and sounds included
- Fast color thumbnails in file requester for easy file browsing

MediaPoint is modular:

- Xapp™ modules for GVP's IV-24, Studio 16 cards, MIDI, CDTV, LaserDisc players, VCRs, still video players. Coming soon: Video Toaster xapp

MediaPoint is complete:

- Standard bundled languages. English, French, German and Dutch.
- Free runtime player
- No hardware key protection.



MediaPoint is a trademark of MediaPoint Int. All other brand names are the property of their respective owners. For more information:

Activa International Inc +31-20-691.19 14, Fax +31-20-691.14 28.

Activa Technical Support UK 081-402.5770, BBS 081 986 5964

Commodore Info Main Menu

- 1 New Amiga models
- 2 CDTV titles
- 3 Multimedia software
- 4 Other products

Interactive Information Systems



Video Titling



Information Channels



Presentations

HP LASERJET III™ COMPATIBLE • FLASH ROM UPGRADABLE



ONLY **£120**

FAX/MODEM SOFTWARE FEATURES C122m 113 59

MODEM/HARDWARE FEATURES - E100.rtd 10/1 20

Journal of Management Inquiry 22(1) 3-15

[illegible]

• **Yield strength:** The stress at which a material begins to deform plastically.

100

NOT 001 000 1111

1-800-368-1111

LINE 001 003 1111

100

In Sales Systems CMUSA 1203 79 1 4 The Mews Hatherley Rd Sidcup Kent DA14 4D

PLEASE SEND INFORMATION ON RICOH LP1200

.....

Metformin 1000mg 2 tablets 2 times daily.

Company Name (if applicable) _____

Address: _____

Postcode

Tel. (Home) _____ Tel. (Mobile) _____

Alfonsa mammillaris. H. nov. de 1891, n. 23.

75W

EXERCISE 10.10 *Abstracted views and generalizations. They change. Please return the support for this initial statement.*

GET SERIOUS

Woah hoss! What happened to all the games? You've just turned to the best tech' section known to man, and to prove it, this is what we've got on test this month...

- 114 2MB AMIGA SMARTCARD**
- 115 INTERNAL XL DRIVE**
- 115 MEGACHIP 2**
- 116 VIDI 12+24 RT**
- 121 MEDIAPOINT**
- 126 NICOLA**
- 129 PRIMERA PRINTER**
- 132 CELLPRO**
- 132 1208 BOARD**
- 133 SEAGATE 80MB HARD DRIVE**
- 138 FINAL WRITER**
- 144 ALTERNATIVE 3D TEXTURES**
- 145 OBJECT EDITOR**
- 150 PD SCENE**
- 153 PD UTILITIES**
- 156 ART GALLERY**



The CU AMIGA top rated accolade for non-game products scoring over 90%. They will definitely be worth the money and are likely to set a benchmark for future releases

INTERNAL XL DRIVE

Let's face it, 880K floppy disks aren't the mass storage medium they seemed to be when the Amiga was launched. With the rise of 24 bit graphics, enormous adventure games, expansive DTP files and the like, low density disks get more inadequate by the day. There are hard drives of course, but you can't take out your hard drive every time you want to exchange files with another computer. Power's 1.76Mb Internal XL drive could be just the solution.

The external version of the XL Drive has been on general release for a few months, but it's only now that you can get one that tucks neatly into your Amiga's beige box. Hooking it up is fairly simple for an internal job. There's really only one possible connector for each of the two contact points on the drive, so as long as you put them on the right way round, nothing much can go wrong. That's the hardware side out of the way, but there's also the question of the installation software. Before the Amiga can read and write to high density disks, you need to install a software patch onto your startup sequence. Apart from giving you greater capacity for your own files, the Internal XL also lets you read high density PC disks, expanding your compatibility further still.

Available from: Power Computing, Unit 8
Rellon Road, Woburn Road Industrial Estate,
Kempston, Bedford, MK42 7PN.
Tel: 0234 843388.
Fax: 0234 840234.
Price: £75.95 (£79.95 for A4000).

82%

Five goodies to bury 880K disks with Power's 1.76Mb PC compatible Internal XL drive

Power Computing, Unit 8 Rellon Road, Woburn Road Industrial Estate, Kempston, Bedford, MK42 7PN. Tel: 0234 843388. Fax: 0234 840234. Price: £75.95 (£79.95 for A4000).

MEGACHIP 2

You can upgrade your Fast RAM 'til you're blue in the face, but after the first half megabyte it won't do anything for your sampling capacity. If, like me, you've struggled with the constraints of a 1Mb A500 for years, the prospect of a whole 2Mb of Chip RAM will probably seem like a massive luxury. Chip RAM upgrades have been available before, but they've had the disadvantage of turning off any trapdoor expansion you might need, which is where Power's Megachip 2 comes in.

In order to increase your Chip RAM, you need to increase the size of your Agnus chip. Unfortunately this means that you can't just slot in a card - yes, it's screwdriver time I'm afraid. The Megachip 2 is actually a replacement Agnus chip. The instructions for installing it are adequate and encourage you to call Power's technical helpline if you have any doubts (there's one in the eye for the box-shifters). Installation involves locating your existing Agnus chip, prising it out, and slotting in your new one. A few trailing wires then have to be connected to the legs of a neigh-

boring chip. This shouldn't pose a problem as the relevant connectors are indicated in the manual. Once you've done that, all that remains is to tuck everything away, put the case back on and power up.

You'll now find that some of your Fast RAM has been taken over but, most importantly, you'll have a couple of megabytes of Chip RAM to play with. The difference this makes to *ConanMED* or *ProTracker* is stunning. Instead of being limited to modules of around 300K, now you can produce 2Mb monsters! Apart from the sound advantages, you'll have access to games that need extra chip RAM, and, if you're into graphics, you'll be able to use more colours at higher resolutions. This is just the thing to inject some new life into any tired old A500.

Available from: Power Computing, Unit 8
Rellon Road, Woburn Road Industrial Estate,
Kempston, Bedford, MK42 7PN.
Tel: 0234 843388.
Fax: 0234 840234.
Price: £159.

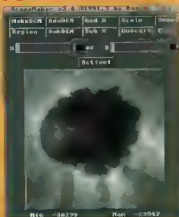
88%

SCAPE MAKER

One of the biggest criticisms levelled at VR Laboratory's Vista fractal landscape generator, has always been its inability to convert IFF images to fractal scenery. Even the latest release, Vista Pro 3.0, still won't handle this all-important task. It may seem like a rather pointless thing to do, but imagine being able to generate an animation of an aircraft flying across a company logo that's raised up from a fractal generated landscape – bravo the guys at Industrial Light and Magic (they of Terminator 2 and Jurassic Park fame) would be proud of an effect like that!

Not surprisingly, an entrepreneurial company has stepped in to fill the gap with the release of ScapeMaker, a utility that can convert either an entire image, or a small portion of an image into a Vista 'DEM' file, which can then be loaded into Vista and transformed into a fractal image complete with grass, snow, trees and even buildings. Obviously you'll need to own Vista to be able to take advantage of this utility, as ScapeMaker is nothing more than a conversion tool. It does, however, include a number of tools that will allow you to edit existing DEM files to make them smoother, and you can even merge an IFF graphic with a DEM, so that the IFF appears to blend in with a true fractal landscape.

Designing an IFF image for use with ScapeMaker is surprisingly simple. The easiest way is to design your graphic in 16 colours using a range of greys from black to white. Each colour represents a ramp level with white being the highest and black the lowest. Once you've imported the graphic into ScapeMaker, all you have to do is to mark the region of the image you'd like converted to a DEM, select MakeDEM and the graphic will be converted. Unless you've smoothed the graphic yourself, the cliff edges will be rather harsh when



If you've ever wanted to carve your name in the hills of a Vista landscape, ScapeMaker is the utility for you.

the image is rendered in Vista, so it's worth smoothing the DEM to create more receding cliffs. The results can certainly be pretty stunning, especially if you merge your DEM with an existing landscape. ScapeMaker is the utility that the makers of Vista Pro forgot to write, and it should be at the top of every Vista user's shopping list. Highly recommended.

Available from Megamek, 1903 Adria, Santa Maria, CA 93454, US. Tel: 0101 805 3491104.
Price: \$64.95 plus \$8 P+P. Upgrade: \$25 plus \$3 P+P.

80%

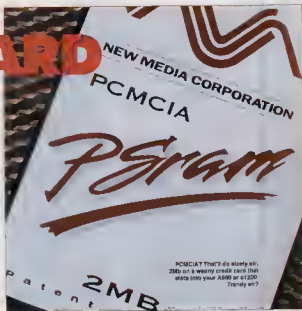
2MB AMIGA SMARTCARD

It's the size and shape of a credit card, and it can boost your A1200 or 600's RAM by 2Mb. It couldn't be simpler – all you do is plug it in and boot up. The PCMCIA port is the unassuming slot on the left-hand side of your Amiga. It's only 16 bits wide, so it's limited to passing 16 bits at a time, rather than the 32 that are spewn back and forth from the rest of the A1200's chips. The result is a very slight speed increase, but not half as much as you'd get with a trapdoor Fast RAM expansion (which generally would give a doubling in speed). In fact, it's unlikely that you'd notice any acceleration in normal day-to-day running, even though Sysinfo clocks about a 20 per cent increase.

This is one of the cheapest ways of expanding your 600/1200's RAM. 1200 owners have the option of spending about £50 more for a 4Mb trapdoor board, while 600 owners can take the far cheaper option of a 1Mb trapdoor card for £35. Bear in mind that most trapdoor expansions will disable anything that's plugged into the PCMCIA port. Although in theory it's possible to daisy-chain peripherals that use the PCMCIA port, we've yet to come across any that come with through ports. For example, you won't be able to use it in conjunction with Software Demon's Overdrive.

Available from: Iudi Direct Mail, 1 Ringway Industrial Estate, Eastern Avenue, Lichfield, Staffs, WS13 7SF.
Tel: 0543 419999.
Fax: 0543 418079.
Price: £119.99.

79%



Vidi 12/24 RT



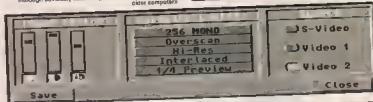
The only trouble with Rombo's early low-cost digitisers was speed. None of them had what it takes to capture moving images. Mat Broomfield looks at the Vidi 12 and 24 RT, which should change all that.

Rombo have dominated the budget digitiser market for years. Now they're raising their sights to take on the likes of V Job. Have they done enough pre-lighting? Despite iniquitous forays into other Amiga arenas, Rombo have more or less made their fortune selling low-cost digitisers. They started with Vidi Amiga, a package that needed a separate colour adapter for video work, or coloured filters if you were using a camera. Several years later, they released Vidi 12, a 12-bit device which was subsequently altered to incorporate AGA screen modes.

This digitiser sold for under £100, yet offered relatively good quality, and had a built-in colour adapter. Its only problem was that it was relatively slow to capture an image, taking nearly a second per frame to grab - at least 25 times too slow to capture a live full-colour video image.

Their newest products are called Vidi 12 RT and Vidi 24 RT. The RT in the title stands for real time, so it won't take a great leap of genius to work out that they've finally overcome the limitation of speed.

It is important to underline that the program can grab in a number of resolutions, but regardless of the capture resolution, you can still create an image in any Amiga screen mode. You can even save AGA screens on non-AGA Amigas, although obviously such images can't be viewed on these class computers.



and can now capture an image in any Amiga resolution or screen mode directly from a moving picture source in as little as 1/50th of a second.

AN OLD FRIEND

If you've used Vidi 12, the software accompanying Vidi 12 RT or Vidi 24 RT will be familiar, as it looks identical and includes many of the same features.

When the program loads, you're greeted by the main screen. At the right of the screen is a window that can be used to show the currently selected image, whilst at the left is a row of buttons which you can use to access the various parts of the program. The first of these buttons are used to define your grab and display preferences and are only accessible from this screen. This is where you can set up the defaults used each time you capture an image. This section includes the brightness, contrast and colour controls. You can also specify the type of image captured by the hardware. This is distinctly different from the displayed image.

For example, you can capture a low-resolution image, but display it in super-high res (on an AGA machine). Or you can capture a high-res interlaced



You can use Vidi's image processing options to alter images that you've digitised with the hardware, or you can load screens from another source. In addition to all RT screen formats, the program can also handle PCX, TIFF and BMP image formats which are equally associated with the PC.

It should occupy a full or quarter screen size. Non-AGA Amigas are not capable of 256 colour display. The

smaller size gives faster screen updates, but, to be honest, even then the frame rate is very low (perhaps three to five frames per second) in 256 greyscale mode.

You can also choose from one of three video sources: S-Video or two composite video sources. This is ideal because you can simultaneously connect the hardware to a camera and two VCRs.

The display preferences window is where you can specify the way that the captured image is shown

Most commercial video tapes are not of very high quality, but rental tapes usually provide a superior source of footage and the images to be seen more stable. Compare this clip from a rental copy of Hook, to the inferior still shown elsewhere in this review.

image, and display it in low resolution. Vidi 24 can capture at a resolution of 720 lines, twice as high as standard TV, and equal to professional broadcast cameras. Vidi 12 manages half that resolution, which is quite adequate for digitising video.

Whilst you're grabbing an image, you will be shown a monochrome preview screen, and you can specify whether this preview should be in 16 or 256 shades of grey and whether





*Above left: The casing used by both VIDI 12 and VIDI 24 is small, but not small enough to leave the serial port free for other peripherals.
Above: Beneath the case is a two-tier circuit board, with the components "jigg-backed" on a pair of well-designed substrates.*

whereas the carousel and main windows will show a greyscale representation.

So anyway, you've selected your preferences, now you can go to the grab screen where you'll capture an image. You can specify whether the grab should be in colour or monochrome, and you can also reselect your video source. You can even choose time-lapse digitising, with intervals ranging between half a second and six hours. And if you're really getting creative you can rig it up to take a shot each time a switch is triggered, making it ideal for certain types of security and surveying work.

Although similar to earlier versions of the software, there are a number of omissions from the section. The only notable AWOL is the facility to capture a single colour component—red, green or blue—although this is not too important

as you can always extract the required component later. The easiest way to capture an image is to select Colour and Auto, then click the Grab button when you're ready. The image will be captured as three separate screens, one for each of the red, green and blue colour planes. These are then combined and output in the display mode of your choice.

Unfortunately, this mode of operation presents one serious limitation, and that is the fact that you need space in RAM for a full 24-bit image plus what ever the displayed image will be. This means that you can run out of memory extremely quickly.

If you have Auto selected, once an image has been captured, the three RGB components will be combined and a screen of the specified screen mode will be created and stored in the carousel.

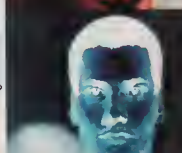
ROUND AND ROUND WE GO

The carousel is like a slide viewer. It can store as many images as you have memory for, and you can view them individually or one after the other. You can also save screens and animations from here, and it even lets you import and export images in the PC's BMP or TIFF formats. A PCX loader/saver is also planned. It's important to note that you can also save your pictures as 12 bit or 24 bit images, regardless of the mode they're displayed in.

POWERFUL PROCESSES

The program also offers a good selection of image processing options. In fact, this is one area that gets better each time the software is updated. I wouldn't

Arg! Here are a few of the program's more virtuous image processing options, but there are more powerful ones in reserve. You'd think that could have written though.



THE DIFFERENCES

Although you might infer from their names that VIDI 12 RT is only capable of 12-bit digitising, in fact both boards offer 24-bit colour. The only difference between them is in their capture capabilities. VIDI 24 can capture at a maximum resolution of 720x576. VIDI 12 can only manage 360x576. Both versions can display in all Amiga screen resolutions but any screen mode above the maximum capture resolution means that the additional pixels must be interpolated from existing data. This means that the image is not a 100 per cent representation of the original.

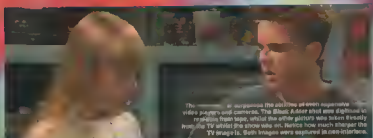
on the screen. You can choose from any of the Amiga's screen and palette modes ranging from two-colour low resolution to HAM6 Super High Res. Because the same software is designed to work on all Amigas, you are given the option to select display modes which non AGA machines can't handle. If you choose such a screen mode, the image can still be saved, but will not be displayed in colour. In fact, on the main edit and view screens, the image won't be displayed at all.

RAMMING THE MESSAGE HOME

One of the program's greatest strengths is the way it chooses up your last memory. Even on a 640K A1200 I can't say it's not, and at times it was only possible to store one frame in RAM. I think that gives its RAM-hungry nature, however, should definitely have incorporated a virtual RAM feature whereby you could use a hard drive, or even a floppy disk as additional temporary memory. Considering the program's relatively low price point, it seems a shame that it needs additional memory to get any real usability out of it.

It also doesn't fully reclaim RAM that it has used and holed with, so if you digitise a dozen pictures and delete them all from its memory, you may still have to reload the software because you no longer have sufficient RAM to work with. This is actually a fairly well documented problem, known as fragmentation. Many applications require sentences (all in one chunk) memory to work.

Unfortunately, each time you delete a picture with VIDI 12 or 24, the memory gets broken down into little shreds, so although all of the memory is being returned to you system, it is no longer contiguous and therefore can't be used



The software is supposed to enhance the quality of video images, and indeed, the image on the right is a much clearer and sharper version of the image on the left. Notice how much sharper the TV image is. Both images were captured in our laboratory.



be surprised if we saw Rombi releasing some kind of standard image processing package in the not-too-distant future. There are now 24 different operators, and, although some of them do really boring things like Flip-X and Flip-Y, there are some complex and useful options too. What makes these options powerful is the fact that they can be applied to either the current image, or all selected frames—ideal if you want to image process an animation!

The options themselves have been greatly enhanced as well. Now, rather than simply giving you a name that you click on to perform a predefined operation, a requester appears asking you to further specify how the effect is to be applied. In most cases, this simply means moving a slider to indicate the degree by which the image should be modified. But there are occasions when you can actually define the way that the effect will work.

Convoys is the most vivid example. Although it is complicated to understand, once you do, you can actually define your own set of effects ranging from colour enhancement to edge detection.

THE UPGRADE PATH

Vidi 12 and 24 RT are great fun for the enthusiastic user, and Rombi say that they'll stand up against any other digitiser costing £1,000 or less. They are reasonably priced, although by no means could you describe them as great-value. However, the one thing that makes the financial straits in that Rombi have provided a very easy upgrade path for owners of either of the Vidi 12 products.

If you own Vidi 12 you can swap it for Vidi 12 RT for £129 or Vidi 24 RT for £159, giving you a saving of £39 and £100 respectively. Vidi 12 RT owners can upgrade to Vidi 24 RT for £39, which means that they actually save £1 by doing it this way!

The reason that Rombi can offer such generous upgrades is because their own board is so easy to upgrade. In fact, I must confess to them on what is a masterpiece of circuit board design. Basically, rather than wasting silicon on boards reconfiguring the coding each time they bring out a new digitiser, Rombi simply ensure that they always fit inside the existing design.

In the case of the RTs, they also involve very easy upgrade ability, so what they did was create a 'plug-in' board (allegedly) board which plugs and sockets into the main circuit board.



A grayscale preview of the current screen is displayed in the main window. Although this can be switched off if you prefer, in fact, a marked improvement over previous versions of the program is the facility to interrupt a short any option before it is complete. Especially handy when you realize that some of them take several minutes to complete.

CONCLUSION

Initially I found Vidi 12/24 RT to be a bit of a disappointment after having waited so long, and having heard so much hype about it. It seemed to suffer in three major areas:

1. It uses too much memory.
2. It can't grab colour sequences in real time.
3. The image clarity doesn't seem too great, even compared to Rombi's own earlier Vidi 12 digitiser.

It was only when I phoned Rombi to moan, that I started to appreciate just what a remarkable feat they have achieved. The problem with memory is a natural side-effect of working with 24-bit images occupying nearly 1 Mb each. As for grabbing real time colour sequences, Rombi pointed out that such a feature would require a unit capable of digitizing and storing to disk 25Mbs of data a second! As there are no drives that can write that fast, it comes as little surprise to learn that there are no home or semi-pro units capable of real time 24-bit sequence capture.

My final guess was caused by the fact that I was digitising in Interface mode. Because of the way this mode works, I was getting motion artifacts which manifested themselves as a blurred image. As soon as I dropped the hardware capture to non-interlace, the problems went away.

At £199 (I think that Vidi 12 RT is the cheapest real-time 24-bit digitiser in the world, and it's the only one for the Amiga that doesn't need a big-box machine such as the A1500 or 3000).

The software is slicker than previous versions, and I like the user interface which appears to conform closely to Commodore's design guidelines.

Even on an A1200, mixing the RGB components to create screen images is a very slow business, and using the special effects in the Edit menu is even worse.

I think it would be fair to say that regardless of the computer you use it on, most of your time will be spent waiting whilst the software modifies your images.

It offers a good entry point to the world of real time digitizing, but I strongly suggest that if you're interested in the 24-bit model, you try the 12-bit version first—that might be enough for you. ☺

VIDI 12 RT £199.99
VIDI 24 £299.99

A500 A500+ A600 A1200
A1500 A2000 A3000 A4000

**ROMBI, BAIRD ROAD, LIVINGSTONE,
SCOTLAND EH54 7AZ**
TEL: 0506 414631

EASE OF USE

Very easy to use and install. **★★★★★★★★90%**

VALUE FOR MONEY

No other 24-bit digitiser costs less. **★★★★★★★★81%**

EFFECTIVENESS

It's very hard to beat the results. **★★★★★★★★89%**

FLEXIBILITY

Very flexible, but constrained by its speed and poor use of memory. **★★★★★★★★83%**

INNOVATION

The technology's old hat, but the implementation is really something to be proud of. **★★★★★★★★92%**

It takes a while before you really appreciate what exceptional value this represents, but once you do, you'll be laughing all the way to the bank.

OVERALL 91%

This picture shows the remarkable resolution and quality that a possible video Vidi 24 RT. I simply put the camera down next to my cat Squid, called his name, and the instant he opened his eyes I captured his sensitive expression in full interlaced sequence.

Ladbroke Computing



33 Ormskirk Rd,
Preston, Lancs,
PR1 2QP

Ladbroke Computing International are one of the longest established home computer dealers in the UK. We have developed an extensive customer service policy which involves testing all hardware prior to dispatch to ensure that goods arrive in working order, offering free advice and support over the phone and keeping customers informed. Although our prices are not always the cheapest we do endeavour to offer consistently good service and backup.

All prices are correct at copy date 1/10/93 (with stroke last). All prices subject to change without prior notice. All prices include VAT but exclude delivery.

How to Buy

You can order by mail Cheques/Postal Orders made payable to Ladbroke Computing. Or give your credit card details over the phone.

Delivery

Postal delivery is available on small items under £40 (normally £3 prices to) daily. Add £7 for courier delivery. Next working day delivery on mainland UK subject to stock (£20 for Saturday delivery).

Open Mon Sat 9.30am to 5.00pm
Ladbroke Computing Ltd trading as Ladbroke Computing International

Fax: (0772) 561071
Tel: 9am-5.30pm (5 Lines)

Printers



| | |
|---|---------|
| Star | |
| Star LC100 Colour | £165.00 |
| Star LC20 | £124.00 |
| Star LC240/100 Mono | £179.00 |
| Starjet SJ48 Bubblejet | £210.00 |
| SJ48 Sheet Feeder | £55.00 |
| SJ48 Ink Cartridge | £19.00 |
| SJ144 Thermal Transfer Colour Printer | £569.99 |
| ● 144 Element Print Head | |
| ● Compressed Data Mode | |
| ● 6 resident fonts | |
| ● 360dpi resolution | |
| ● Emulates Epson LQ660 IBM Pro Printer and NEC Graphics | |

Citizen

| | |
|----------------------------|---------|
| Citizen Swift 40 Colour | £175.00 |
| Citizen Swift 240 Colour | £270.00 |
| Citizen 1240 Special Offer | £149.99 |

Hewlett Packard

| | |
|-----------------------|---------|
| HP Deskjet 510 | £299.99 |
| HP Deskjet 550 Colour | £599.99 |

Lasers

| | |
|---------------|---------|
| Picoch LP1200 | £799.00 |
|---------------|---------|

Add £3 for Centronics cable and £7 for next working day courier delivery.

Floppy Drives

- 880K formatted capacity
- Double sided, Double density
- Through port
- Enable & Disable Switch
- Anti Click
- Anti Virus Mode

| | |
|--------------------------|--------|
| Rockline external drive | £54.99 |
| Amiga 500 Internal drive | £49.99 |
| Cumena CAX 354 | £54.99 |

Speed Mouse

- 290dpi resolution
- 2 Microswitch buttons
- Opto/Mechanical mechanism
- Switchable between Amiga/ST
- Direct Mouse Replacement

Speed Mouse

£11.99

GVP II Hard Drives



- Quantum SCSI Hard drive
- Ultra fast 11ms access
- Up to 8Mb RAM on board
- 2 year warranty

| | |
|------------------|---------|
| 42Mb No RAM | £199.00 |
| 80Mb No RAM | £299.00 |
| 120Mb No RAM | £399.00 |
| 213Mb No RAM | £564.00 |
| 2Mb SIMM Upgrade | £89.99 |
| 4Mb SIMM Upgrade | £179.99 |
| 8Mb SIMM Upgrade | £300.00 |

Repair Services

Our Service department can repair Amiga's in minimum time at competitive rates. We can arrange for courier pickup and return delivery of your machine to assure its safety. We even have a same day service which will ensure your machine is given promptly and subject to fault, completed the same day. We can fit memory upgrades, ROM upgrades. We offer a Quotation service for £15 for which we will examine your machine and report back with an exact price for repair. If you do not wish to go ahead with the repairs then just pay the £15. However if you do go ahead then the charge is included in the minimum charge! Please note. This minimum charge covers labour, parts are extra.

| | |
|-------------------|--------|
| Quotation service | £15.00 |
| Min repair charge | £35.25 |
| Courier Pickup | £11.00 |
| Courier Return | £7.00 |
| Same day service | £15.00 |

Amiga Packs

Amiga 600 Wild, Weld and Wicked Pack £199.99
Includes A800 with Pushover, Microprose Grand Prix, Putty and Deluxe Paint III

Amiga CD32 £280.99
Includes Digger & Oscar games

Amiga 1200 Race & Chase Pack £280.99
Includes A1200 with 2Mb RAM, Nigel Mansell (1200 version) and Troils (1200 version)



Software

Mini Office £45.00
Wordprocessor, Database, Spreadsheet, Disc Utilities and Graphics

Pen Pal £45.00
Powerful wordprocessor with text wrap around graphics, Forms manager, Database manager, calculated fields etc. 100,000 word spelling dictionary, Mail Merge

Final Copy II £79.99
Amiga wordprocessor. 110,000 word spell checker, 826,000 word thesaurus, Automatic hyphenation, multiple columns, HAM & 24 bit graphics support, Built in Postscript support

Deluxe Paint IV AGA £69.99
Paint and animate in 262,000 colours. Developed specifically for the Commodore A1200 and A4000, takes full advantage of the new AGA chip set. Metamorphosis, instantly transform the shape and image of one brush into any other brush, HAM support. Print stencil mode. Transparency and linking features for special effects. Requires 2Mb RAM, kickstart 1.2.04 or greater

Falcon 030

- 16MHz 32 bit 68030 Central Processor, 16MHz Blitter, 32MHz 56001 Digital Signal Processor
 - 144Mb 3.5" Floppy, up to 14Mb RAM Displays 65536 colours from 262144 palette at 768 x 480 resolution
 - 6 Channel, 16 bit, Stereo sound sampling
- FALCON 4Mb 120Mb HD £999.00
FALCON 4Mb NO HD £779.00
FALCON 1Mb NO HD £599.00

Hand Scanners



Golden Image Hand Scanner

- 100, 200, 300, 400dpi resolution
- 1 letter mode 3 photo modes
- Includes two of the most respected graphics packages, MICROGRAPH'S TOUCH UP and DELUXE PAINT III

£89.99

While stocks last

RAM Upgrades

A800 512K upgrade

£14.99

A500+ 1Mb upgrade

£19.99

A800 1Mb with clock

£44.99

Plugs straight into A600 top door compatible with A600, A600HD

Accessories

| | |
|------------------------|--------|
| 50 3.5" Disk | £23.50 |
| 100 3.5" Disk | £44.65 |
| 3.5" Disk head cleaner | £4.00 |
| 50 Disk Box | £5.00 |
| 100 Disk Box | £8.00 |
| A500 Dustcover | £4.00 |
| Mouse/Joytek extension | £5.00 |
| PRO 500 Joystick | £7.00 |

Monitors



Philips 8833 MKII £199.00

Includes 12 Months on site warranty (Mainland UK) and free Lotus Turbo Challenge 2 game

Commodore 10845 Colour £169.00
Amiga Colour, stereo monitor including cable

Microvitec 1440 £399.00
14" Colour SVGA Monitor 28 dot pitch
Phone for Commodore Adaptor

Colour SVGA Monitor £299.00
High quality Colour SVGA Monitor, 28 dot pitch Includes Falcon Adaptor

| | |
|------------------------|-------|
| Falcon VGA Adaptor | £9.00 |
| Philips SCART to Amiga | £9.00 |
| 8833 MKII to Amiga | £9.00 |

MediaPoint

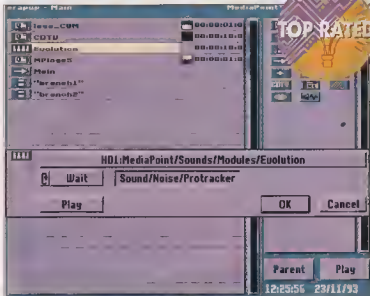
Ever wondered what the makers of *Real 3D* do on their day off? John Kennedy discovers that rather than lie around the house all day they have entered the interactive world of multimedia.

I don't particularly want to review Activision's infant baby, and I'll tell you why: I'd rather no one else knew about it. I'm hoping that you won't notice the rather attractive screen shots on this page, and my carefully crafted text will entirely pass you by. In fact, I demand that you skip this review completely and move on to the Back Chat page, which is rather good, as I'm in it this month.

MULTIMEDIA MAGIC

Now that I'm alone, I'm at liberty to write on to myself about *MediaPoint*, safe in the knowledge that no one else is going to steal my ideas, because after playing around with *MediaPoint*, I've got lots of new ideas. Now I know how I can use the Amiga to actually do something useful to a range.

Once upon a time, someone thought of "multimedia" and it's still the magic word in computer land, mainly because it can mean exactly what you



Each text on the right is a picture action, and when dragged into the script on the right they create a sequence of events. Here the soundtrack for the presentation is being selected.

want it to mean. To me, multimedia is an interactive and informative blend of text, pictures, animations and sound, and Activision's *MediaPoint* seem to agree with me because that's exactly

what *MediaPoint* creates. The easiest way to describe this program is to think of an incredibly easy-to-understand programming language. Think of a language that will load and display a picture in any mode without fuss, add text anywhere on the screen and play a sound tracker module in the background whilst waiting for the user to press a key or click on a gadget. Even better, I think of a language that offers all this in an intuitive point

and click environment and also supports a huge array of extra hardware. Now you have a good grasp as to what *MediaPoint* is all about.

SCRIPTING EXAMPLE

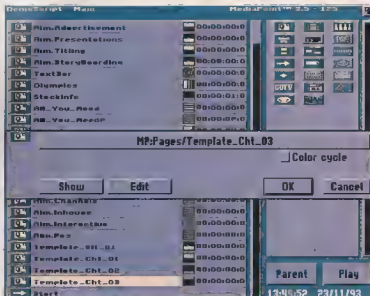
Here's a simple example where *MediaPoint* would be very useful. Now remember, I'm talking to myself here so don't run off and do this—it's my idea. Imagine you run an estate agent, and you want a useful window display, something a little more eye-catching than bland photographs of suburban nightmares. Using a still-video camera you take lots of photographs inside and around your houses. Then you digitise them with V-Lab or some such, and store the pictures on a hard drive. Also on the drive you put *MediaPoint* running a script which displays the houses in a main window, then features down the side and finally the price. You're easy-to-pay, budget plan, low finance mortgage rates also flash up on screen occasionally.

Using a touch screen device and an AfTeX driver, you then offer passers-by the ability to select a house and even take a little guided tour (with soundtrack) by means of the keypad. If they choose, they can enter their telephone number and in the morning you can call them to make an appointment.

It would take an hour or so to write the script using *MediaPoint*, and the system would pay for itself in one sale. That's exactly what multimedia is all about.



The picture list requester allows interactive thumbnails to give you an idea as to what each the looks like. Very handy.



The small black and white squares stacked vertically in the centre of the screen represent the different wipes used to bring the new image to the screen.

SO WHAT'S NEW?

» Active creator haven't come up with something astonishingly new with MediaPoint, instead they have looked at the previous efforts and improved them beyond measure.

Most other authoring programs offer limited support for animations and sound, but MediaPoint covers just about everything. All normal Amiga ANIM file formats are covered, including the new and improved ANIM7 format which wipes the floor with the older versions when used with 68020 and better processors. As the AGA chipset permits some exceptionally detailed animations, ANIM7 is essential for decent frame rates. MediaPoint will spool anims directly from hard disk and if you lower the frame rate slightly it can do it without any sudden jerks as well. I'd give the editor's right arm to get a chance to play with a SCSI2 drive, as the results would be very impressive indeed. [Thanks John, I'll remember those kind words when it comes to pay day - Ed.] Sound samples can also be spooled directly which means your host system doesn't need to be crammed to the gills with expensive RAM chips in order to play back lengthy samples, such as general greetings or narrations. What marks MediaPoint out from the crowd is its support of external hardware by means of its unique Xkops (eXternal Applications) protocol. A Xapp is a code module which can be used to control any extra piece of kit, the idea presumably being that manufacturers will include Xapp files themselves.

For example, the CDTV Xapp allows control over the playback of audio CDs. The CDTV player can either be part of the host hardware (that is, the MediaPoint program is running on a CDTV or A500 with A570) or connect via a serial link. For example, my A4000 is linked to a CDTV, and with MediaPoint I can use my Pink Floyd collection to add a synchronised soundtrack to my animations. As MediaPoint works in its own time system or in SMPTE/EBU or MIDI time, synchronisation is frame accurate. The scheduling system also

THE XAPPS

MediaPoint interfaces with other pieces of hardware by means of Xapps (or eXternal Applications) code modules. Each peripheral requires its own Xapp, which provides control over the various features.

Active supply several Xapps on standard, and will happily provide details to how to write your own should the need arise.

XAPPS ARE PROVIDED FOR:

- CDX1 - provides control for playback of audio CD discs.
- CDXL - plays sound and animation files in CDXL (AGA) format.
- GAH - controls the Casio FX321 32K Video Player.
- GV4 - controls video over the GVP 4-bit graphics system.
- MIID - plays standard MIDI files.
- SD16 - when used with the SeaRite A5616 or A51012, provides CD quality sound from hard disk.
- VideoDisk/VCR - interfaces his Amiga with several compatible video disk and tape players.

allows specific actions to be carried out at certain dates or times. The estate agent's window display could display a half price sale for half an hour every alternative Thursday at 2am if desired.

SLICK AND SMOOTH

Using MediaPoint is a pleasure and the software has a tremendously solid feel about it. Some programs simply inspire confidence with their sample menu layouts and clear displays, and this is one of them. The slickness permeates throughout the software. Each new screen image or object can be displayed through 50 different transitions or wipes. Pictures can melt, split and bounce onto the screen whilst logos can spin and dissolve.

Creating flashy business presentations is ridiculously easy and it's hard not to get carried away and turn the entire episode into a fully fledged news program. For low level control, the scripts generated as you click and drag icons can be edited, or even created, with a standard text editor. In this way you can ensure your presentation hasn't a pixel out of place, and making full use of an AGA

chipset means the pixels look stunning. You don't need an AGA A1200 or A4000 to use MediaPoint but you will need lots of memory and hard disk space. The barest of minimum systems will have 2Mb of Chip RAM or 1Mb of Chip RAM and 2Mb of Fast RAM, with Kickstart 2. But any program which depends heavily on graphics and sound will work best with a hard drive and 6Mb of memory. The ideal system would be a well-equipped A4000 used for authoring the systems, and an A1200 with a hard drive used for displaying them.

COOL STUFF

Some particularly cool features which I couldn't for give myself for not mentioning include support for CDXL, the animation and sound format originally developed for the CDTV player. Now we have the AGA chipset, CDXL is going to become even more important, and this is one of the few programs to support it. CDXL offers very reasonable live video playback without the need for an MPEG chip, and I used properly I firmly believe it will revolutionise Amiga software.

I successfully played back some CDXL files pinched from a passing CDTV disk, and enjoyed the option to quadruple the screen size. But of course CDXL support isn't for everyone - and it won't be until there is an expensive method of capturing the necessary video and sound data. However, the fact that it is supported is good news for the Amiga community as a whole. If you create a standalone multimedia terminal using MediaPoint (another one of my ideas, so don't bother) you'll be delighted to know that there is an optional camera link feature. This means that as long as the terminal is connected to a standard telephone line via a modem, you can completely revise and update the presentation from the other side of the world. MediaPoint comes with a live playback module, which means you don't need to worry about any license arrangements.

TOO PERFECT?

Is this the last Amiga software to get 100 per cent overall? You might have got that impression from the previous text, but so as not to mislead

JARGON BUSTERS

- AGA The new Amigas (the A1200, A4000 and C32X) feature the advanced graphics architecture chipset, which allows more colours and higher resolutions.
- ANIM7 The Amiga 7-bit standard file format allows for internal variations, and that's exactly what ANIM7 is. Normally animations are saved using the ANIM5 format, but with the advent of all new powerful 32-bit processors (A286 and above), the new ANIM7 format gives a lot better.
- CDXL The file format used to package up sound and 'live' video for playback in the CDTV. Although only a quarter screen, the quality was acceptable and now with AGA, CDXL is even better.
- CDTV Commodore's Dynamic Total Vision was a flop, which new Amigas you can play it up for a long and extract them to your Amiga as a CD ROM drive.
- MED The only Amiga program I'm (nearly) going to not live without. MED is a music editor which allows songs to be constructed from Amiga samples.
- MIID The Musical Instrument Digital Interface allows an Amiga to record, edit and play back sounds from a home or studio keyboard.
- MPEG The Motion Pictures Expert Group decided that this was the standard to compress full motion video onto CD-ROMs.
- Multimedia Anything you want.
- SMPTE Society of motion pictures and television engineers - another standard put together by an expert group.
- Xapp: MediaPoint uses Xapps (external applications) modules to interface with extra hardware.

Commodore shares rocket after Dan Singsby appointed new UK chairman

Furniture Polishing announce termination of Amiga Furniture magazine after in-house sex scandal

The first machine from the new BM/Apple merger is announced: it is fully Amiga compatible.

MediaPoint is very good at quickly generating displays. The text and windows are completely separate and each can be moved by itself.



Interactive shop window displays are only the beginning. Just wait until affordable CD-ROMs and CDXL start to take over.

Alas, by being perfect, Activa have woven some tiny imperfections into the tapestry that is MediaPoint. Or to put it another way, there are a few bugs and omissions.

For starters, the sound module playback doesn't support MED files, which is a pity as MED is probably the most popular tracker on the planet. As both MED's player and MediaPoint support

THE COMPETITION

Multimedia on the Amiga is nothing new, in fact it started several years ago with a program called *Slide Video*.

Since then we've had *CanDo Hyperbook*, *AmigaPhoto*, *Scale* and *Form* which had met with varying degrees of success.

CanDo and *Hyperbook* are geared more towards generating application software than presentation systems, although the new AGA compatible *CanDo* might redress that.

Scale and *AmigaPhoto* are both good presentation systems (a new version of *Scale* is imminent, and will be noisy video's toughest rival in this office) and *Form* fully *Comshare* compatible.

—in my opinion—*MediaPoint* is the slickest of all the packages available, allowing some extremely attractive and powerful displays to be created within minutes.

ARexx, there are ways around this of course. Unfortunately, the MIDI file support is also a little suspect—basically it didn't. Certainly any MIDI file that I created with *Bers and Pipes* got the thumbs down.

Animation support was also slightly rocky as one of my large animations consistently crashed the whole system, as did pressing escape at the wrong time whilst previewing a screen. I did seem to hit the old Recoverable Alert followed by *Software Failure* screen rather too much for a finished product of the price. And why can't the mouse point on my A4000 reach more than half way across the screen?

I can forgive these shortcomings because the Xapple system means that it's only a matter of time before these bugs are fixed—hopefully by the time you read this. I can also forgive Activa because of the enormous amount of clip art and sound samples they supply—it takes an hour or so just to look and listen to everything.

Book Edit Re Text Tests Author

New...
Open...
Make Copy...
Streamline...
Print...
Report...
Preferences...
About...
Quit...

Forest Green
Pavement Blue
Brass
New Blue

Backshelf



CONCLUSION

Just as *Real3Dv2* is the ultimate Amiga rendering program, so *MediaPoint* is the best multimedia authoring program around. The support for every file format under the sun, the easy to use non-based scripting system, and the excellent stock of clip art mean that this program will take a lot of beating.

It is amazing that one program could appeal to so many needs. Demo writers can use *MediaPoint* to create hip and happenin' demos, graphics freaks can use the animation spool system to record directly to video tape with sound effects, and information engineers like myself can use *MediaPoint* to (hopefully) make their fortune.

Multimedia is where the Amiga has a strong hold, and with programs like this, it's only going to grow stronger.

BVCC £299.99

A500 A500+ A800 A1200
A1500 A2000 A3000 A4000

BVCC, SUITETOWN, 48 WINDSOR ROAD, EALING, LONDON W5 5PE.
TEL: 081 567 4823

EASE OF USE *****89%
Paint and click save drag and watch. Script editing isn't too tough.

VALUE FOR MONEY *****75%
High price since it's equally at developers. A cut down home version is definitely required.

EFFECTIVENESS *****92%
Excellent. Very slick. Very professional results.

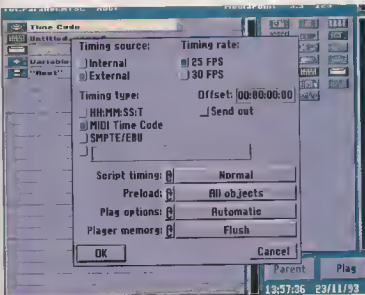
FLEXIBILITY *****96%
Supports just about anything, including new AMX formats and CDXL.

INNOVATION *****88%
Nothing very new, just better.

Great product.
This is what multimedia is all about.

OVERALL

90%



Timing can be set to be internally or externally generated. Using multiple Amigas sync'd with a BNC clock, it would be relatively straightforward to make a huge video wall of monitors.

PLEASE
PHONE
US FOR
MORE
DETAILS

NEW YEAR SPECIALS

OPEN HOURS 10 AM - 5 PM
LATE OPENING FRIDAY
TIL 8PM

AMIGA 1200 WITH HARD DRIVE RACE & CRASH PACK FROM £469.99*

AMIGA 1200 NO DRIVE £279.99

A1200+12MEG HD £469.99

A1200+17MEG HD £489.99

A1200+212MEG HD £509.99

A1200+250MEG HD £529.99

A1200+340MEG HD £559.99

OPTIONAL 2ND YEAR WARRANTY £27.95

ALL PRICES INCLUDE 12 MONTHS WARRANTY - FREE COLLECTION & DELIVERY IN THE EVENT OF REPAIRS.

AMIGA 1200 32BIT RAM CARDS WITH CLOCK

OMEG £89.99

3MEG £99.99

2MEG £129.99

4MEG £199.99

5MEG £299.99

6MEG £399.99

7MEG £499.99

8MEG £599.99

9MEG £699.99

10MEG £799.99

11MEG £899.99

12MEG £999.99

13MEG £1099.99

14MEG £1199.99

15MEG £1299.99

16MEG £1399.99

17MEG £1499.99

18MEG £1599.99

19MEG £1699.99

20MEG £1799.99

21MEG £1899.99

22MEG £1999.99

23MEG £2099.99

24MEG £2199.99

25MEG £2299.99

26MEG £2399.99

27MEG £2499.99

28MEG £2599.99

29MEG £2699.99

30MEG £2799.99

31MEG £2899.99

32MEG £2999.99

33MEG £3099.99

34MEG £3199.99

35MEG £3299.99

36MEG £3399.99

ALL PRICES INCLUDE 12 MONTHS WARRANTY - FREE COLLECTION & DELIVERY IN THE EVENT OF REPAIRS.

***ADD £50 FOR DESKTOP DYNAMICS PACK**

THE AMAZING CHAOS GAMES PACK

CRASH ENGINE £19.99
SYNDICATE
PIRILL PANTAGES
RICK FALDOO CHAMPIONSHIP GOLF
£19.99 WITH ANY AMIGA
Otherwise £29.99
LIMITED STOCKS

MIRACLE KEYBOARDS

£229.99 Inc 3 Year Bond Books worth £10.00

BOOKS FOR THE BEGINNER

ADD £20.00 FOR 3 Year Bond Books worth £10.00

A1200 HARD DRIVES

INTERNAL

80MEG £189.99

120MEG £194.99

170MEG £219.99

212MEG £234.99

250MEG £259.99

340MEG £329.99

EXTERNAL A1200 3.5" HOUSING - £69.99 NEW

3.5" HARD DRIVE HOUSING - £69.99 NEW

BUILD YOUR OWN EXTERNAL DRIVE

THE HIGHLIGHTER 3.5" COMPLETE ALIEN MATCHED ALIEN CASE FOR MOST 1" HIGH 3.5" IDE HARD DRIVES. COMPLETE WITH 3.5" TO 5.25" ADAPTOR & CABLE (FOR POWER & DATA). CONNECTED TO 1200+ 3.5" CASE & FORMATTING A PARTICULAR ADVANTAGE. ALSO AVAILABLE FOR 286 DRIVE. EXTREME PRICE £69.99 AND £19.99.

AMIGA 1200 UPGRADES

A1200 INTERNAL CLOCK

MODULE - £15.99

Plugs into internal socket (not fitted on all 1200+). Clocking immediately.

NEW 1200+ 3.5" CASE & FORMATTING A PARTICULAR ADVANTAGE. ALSO AVAILABLE FOR 286 DRIVE. EXTREME PRICE £69.99 AND £19.99.

NEW 1200+ 3.5" CASE & FORMATTING A PARTICULAR ADVANTAGE. ALSO AVAILABLE FOR 286 DRIVE. EXTREME PRICE £69.99 AND £19.99.

NEW 1200+ 3.5" CASE & FORMATTING A PARTICULAR ADVANTAGE. ALSO AVAILABLE FOR 286 DRIVE. EXTREME PRICE £69.99 AND £19.99.

NEW 1200+ 3.5" CASE & FORMATTING A PARTICULAR ADVANTAGE. ALSO AVAILABLE FOR 286 DRIVE. EXTREME PRICE £69.99 AND £19.99.

NEW 1200+ 3.5" CASE & FORMATTING A PARTICULAR ADVANTAGE. ALSO AVAILABLE FOR 286 DRIVE. EXTREME PRICE £69.99 AND £19.99.

NEW 1200+ 3.5" CASE & FORMATTING A PARTICULAR ADVANTAGE. ALSO AVAILABLE FOR 286 DRIVE. EXTREME PRICE £69.99 AND £19.99.

NEW 1200+ 3.5" CASE & FORMATTING A PARTICULAR ADVANTAGE. ALSO AVAILABLE FOR 286 DRIVE. EXTREME PRICE £69.99 AND £19.99.

NEW 1200+ 3.5" CASE & FORMATTING A PARTICULAR ADVANTAGE. ALSO AVAILABLE FOR 286 DRIVE. EXTREME PRICE £69.99 AND £19.99.

NEW 1200+ 3.5" CASE & FORMATTING A PARTICULAR ADVANTAGE. ALSO AVAILABLE FOR 286 DRIVE. EXTREME PRICE £69.99 AND £19.99.

NEW 1200+ 3.5" CASE & FORMATTING A PARTICULAR ADVANTAGE. ALSO AVAILABLE FOR 286 DRIVE. EXTREME PRICE £69.99 AND £19.99.

NEW 1200+ 3.5" CASE & FORMATTING A PARTICULAR ADVANTAGE. ALSO AVAILABLE FOR 286 DRIVE. EXTREME PRICE £69.99 AND £19.99.

NEW 1200+ 3.5" CASE & FORMATTING A PARTICULAR ADVANTAGE. ALSO AVAILABLE FOR 286 DRIVE. EXTREME PRICE £69.99 AND £19.99.

NEW 1200+ 3.5" CASE & FORMATTING A PARTICULAR ADVANTAGE. ALSO AVAILABLE FOR 286 DRIVE. EXTREME PRICE £69.99 AND £19.99.

NEW 1200+ 3.5" CASE & FORMATTING A PARTICULAR ADVANTAGE. ALSO AVAILABLE FOR 286 DRIVE. EXTREME PRICE £69.99 AND £19.99.

NEW 1200+ 3.5" CASE & FORMATTING A PARTICULAR ADVANTAGE. ALSO AVAILABLE FOR 286 DRIVE. EXTREME PRICE £69.99 AND £19.99.

NEW 1200+ 3.5" CASE & FORMATTING A PARTICULAR ADVANTAGE. ALSO AVAILABLE FOR 286 DRIVE. EXTREME PRICE £69.99 AND £19.99.



ALL PRICES INCLUDE VAT

SALES

0274

691115

CALL 0274 691115

ACORN VISA

SWITCH DESK

CONNECT AMIGA

SWITCH CARD

ACCEPTED FOR TELEPHONE ORDERS

PRINTERS

EPSON 8000 £199.99

EPSON 8000 £199.99

EPSON 8000 £199.99

EPSON 8000 £199.99

EPSON 8000 £199.99

EPSON 8000 £199.99

EPSON 8000 £199.99

EPSON 8000 £199.99

EPSON 8000 £199.99

EPSON 8000 £199.99

EPSON 8000 £199.99

EPSON 8000 £199.99

EPSON 8000 £199.99

EPSON 8000 £199.99

EPSON 8000 £199.99

EPSON 8000 £199.99

EPSON 8000 £199.99

EPSON 8000 £199.99

EPSON 8000 £199.99

EPSON 8000 £199.99

PRINTERS ACCESSORIES

AMIGA 1200 UPGRADES

A1200 INTERNAL CLOCK

MODULE - £15.99

Plugs into internal socket (not fitted on all 1200+). Clocking immediately.

NEW 1200+ 3.5" CASE & FORMATTING A PARTICULAR ADVANTAGE. ALSO AVAILABLE FOR 286 DRIVE. EXTREME PRICE £69.99 AND £19.99.

NEW 1200+ 3.5" CASE & FORMATTING A PARTICULAR ADVANTAGE. ALSO AVAILABLE FOR 286 DRIVE. EXTREME PRICE £69.99 AND £19.99.

NEW 1200+ 3.5" CASE & FORMATTING A PARTICULAR ADVANTAGE. ALSO AVAILABLE FOR 286 DRIVE. EXTREME PRICE £69.99 AND £19.99.

NEW 1200+ 3.5" CASE & FORMATTING A PARTICULAR ADVANTAGE. ALSO AVAILABLE FOR 286 DRIVE. EXTREME PRICE £69.99 AND £19.99.

NEW 1200+ 3.5" CASE & FORMATTING A PARTICULAR ADVANTAGE. ALSO AVAILABLE FOR 286 DRIVE. EXTREME PRICE £69.99 AND £19.99.

NEW 1200+ 3.5" CASE & FORMATTING A PARTICULAR ADVANTAGE. ALSO AVAILABLE FOR 286 DRIVE. EXTREME PRICE £69.99 AND £19.99.

NEW 1200+ 3.5" CASE & FORMATTING A PARTICULAR ADVANTAGE. ALSO AVAILABLE FOR 286 DRIVE. EXTREME PRICE £69.99 AND £19.99.

NEW 1200+ 3.5" CASE & FORMATTING A PARTICULAR ADVANTAGE. ALSO AVAILABLE FOR 286 DRIVE. EXTREME PRICE £69.99 AND £19.99.

NEW 1200+ 3.5" CASE & FORMATTING A PARTICULAR ADVANTAGE. ALSO AVAILABLE FOR 286 DRIVE. EXTREME PRICE £69.99 AND £19.99.

NEW 1200+ 3.5" CASE & FORMATTING A PARTICULAR ADVANTAGE. ALSO AVAILABLE FOR 286 DRIVE. EXTREME PRICE £69.99 AND £19.99.

NEW 1200+ 3.5" CASE & FORMATTING A PARTICULAR ADVANTAGE. ALSO AVAILABLE FOR 286 DRIVE. EXTREME PRICE £69.99 AND £19.99.

NEW 1200+ 3.5" CASE & FORMATTING A PARTICULAR ADVANTAGE. ALSO AVAILABLE FOR 286 DRIVE. EXTREME PRICE £69.99 AND £19.99.

NEW 1200+ 3.5" CASE & FORMATTING A PARTICULAR ADVANTAGE. ALSO AVAILABLE FOR 286 DRIVE. EXTREME PRICE £69.99 AND £19.99.

NEW 1200+ 3.5" CASE & FORMATTING A PARTICULAR ADVANTAGE. ALSO AVAILABLE FOR 286 DRIVE. EXTREME PRICE £69.99 AND £19.99.

NEW 1200+ 3.5" CASE & FORMATTING A PARTICULAR ADVANTAGE. ALSO AVAILABLE FOR 286 DRIVE. EXTREME PRICE £69.99 AND £19.99.

NEW 1200+ 3.5" CASE & FORMATTING A PARTICULAR ADVANTAGE. ALSO AVAILABLE FOR 286 DRIVE. EXTREME PRICE £69.99 AND £19.99.

COLOUR MONITORS

PHILIPS CM8336k2

ONLY £209.99

1" GUN

1" GUN

1" GUN

1" GUN

1" GUN

1" GUN

1" GUN

1" GUN

1" GUN

1" GUN

1" GUN

1" GUN

1" GUN

1" GUN

1" GUN

1" GUN

COMMODORE

10848

£189.99

1" GUN

1" GUN

1" GUN

1" GUN

1" GUN

1" GUN

1" GUN

1" GUN

1" GUN

1" GUN

1" GUN

1" GUN

1" GUN

1" GUN

1" GUN

1" GUN

AMIGA 500 HARD DRIVES

EPSON 8000 £199.99

EPSON 8000 £199.99

EPSON 8000 £199.99

EPSON 8000 £199.99

EPSON 8000 £199.99

EPSON 8000 £199.99

EPSON 8000 £199.99

EPSON 8000 £199.99

EPSON 8000 £199.99

EPSON 8000 £199.99

EPSON 8000 £199.99

TRILLOGIC MULTISCAN 14

HIGH RESOLUTION COLOUR MONITOR

1" GUN

1" GUN

1" GUN

1" GUN

1" GUN

1" GUN

1" GUN

1" GUN

1" GUN

1" GUN

NEW AUTOSCAN 14

HIRE COLOUR

MONITOR.

ONLY £349.99

1" GUN

1" GUN

1" GUN

1" GUN

1" GUN

1" GUN

1" GUN

OPEN SUNDAY 10-3PM

TRILAGIC

NO. 1 IN THE SOUTH
THE BEST SERVICE IN THE SOUTH
THE BEST PRICE IN THE SOUTH
THE BEST LOCATION IN THE SOUTH
THE BEST SERVICE IN THE SOUTH
THE BEST PRICE IN THE SOUTH
THE BEST LOCATION IN THE SOUTH

DISKETTS VIDEO OPTS

GVP 8-LOCK \$299.99
MEMORIO \$149.99
VHS 12 17.99
VHS 13 18.99
RECORDS 16 18.99
RECORDS 18 19.99
VHS 12 19.99
VHS 13 20.99

EPSON COLOR PLEKED A8 AMIGA SCANNERS

OT5500 \$399.99
OT5500 \$399.99
OT5500 \$399.99

VIDEO NEW PROCEDES

\$149.99

MICE & JOYSTICKS

JOYSTICKS
JOYSTICKS
JOYSTICKS
JOYSTICKS
JOYSTICKS
JOYSTICKS
JOYSTICKS
JOYSTICKS
JOYSTICKS
JOYSTICKS

MOUSE & JOYSTICKS

MOUSE
MOUSE
MOUSE
MOUSE
MOUSE
MOUSE
MOUSE
MOUSE
MOUSE
MOUSE

JOYSTICKS

JOYSTICKS
JOYSTICKS
JOYSTICKS
JOYSTICKS
JOYSTICKS
JOYSTICKS
JOYSTICKS
JOYSTICKS
JOYSTICKS
JOYSTICKS

MICE & TRACKBALLS

MICE
MICE
MICE
MICE
MICE
MICE
MICE
MICE
MICE
MICE

DISKS & BOOKS

DISKS
DISKS
DISKS
DISKS
DISKS
DISKS
DISKS
DISKS
DISKS
DISKS

JUST SOVERS

SHAL & TIPS

TISS TISS KITSBOARD

TISS

TISS

TISS

TISS

TISS

TISS

TISS

TISS

TISS

TISS

TISS

TISS

TISS

TISS

TISS

TISS

TISS

TISS

**UNIT 1,
 253 NEW WORKS RD,
 BRADFORD, UK,
 BD12 0QP**

**OFFICIAL DEALER: IBM
 01274 511111
 01274 511111**

**SALES
 0274
 69 11 15**

FAX 01274 194110

BTG REDUCTIONS

MIRACLE

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

KEYBOARD

\$229.99

**WE WISH ALL CU AMIGA
 READERS A VERY HAPPY &
 PROSPEROUS NEW YEAR**

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

BACKUP UTILITIES

SPARE

SPARE

SPARE

SPARE

SPARE

SPARE

SPARE

SPARE

SPARE

SPARE

SPARE

SPARE

SPARE

SPARE

SPARE

SPARE

SPARE

SPARE

SPARE

SPARE

SPARE

SPARE

SPARE

SPARE

SPARE

SPARE

SPARE

SPARE

SPARE

SPARE

SPARE

SPARE

SPARE

SPARE

SPARE

SPARE

increase your hard disk capacity,



no sweat!

DiskExpander is an innovative program for all Amiga users. With this software solution you may double the capacity of your floppy disk or hard disk drives. The installation process takes only a few seconds and afterwards DiskExpander works invisible in the background. The compression-ratios vary from 30% to 70%.

The easy-to-use graphical user interface guarantees that even the inexperienced user is able to use DiskExpander immediately without any problems. DiskExpander does not only expand the capacity of your hard disk drive, even floppy disks now have a storage space of approximately 1.5 megabytes.

expander features

Can add 50% to your hard drive capacity at a stroke

Fast compression and decompression

Flexible and expandable as new compression libraries are developed

Works with all drives, including SCSI, IDE, Floppies, and even the RAD disk

Reliable in tests - no data corruption

Once installed the program is transparent to the user

Works on any Amiga and any KickStart

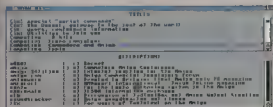
disk expander £35

telephone 0234 843388



Power Computing Ltd
Unit 8 Relton Road
Woburn Bedford Ind. Estate
Kempston Bedford MK42 7PN

*del. excl. post & p.p. £38.00 2.5 disk £3.50 Extra disk £10.00
delivered by air to stock availability, all prices include 1 V. B. & G.
We also have distributors available including Germany*



Nicola's Conference Browser is a unique option that lets you peruse the 1,000+ confer messages available

which you're a member. These messages will then be downloaded. If you've requested any files or binfiles to be downloaded, it will be done automatically.

Having downloaded your binfile and new messages, Nicola will prepare your message base with what's known as a 'pacer'. It checks all the messages it has downloaded then arranges them in your preferred reading order.

For example, you can use what's known as a 'bouncing people filter' to automatically remove messages from people you don't like.

Finally, you can also decide the conference order in which your messages are displayed as well as the

SEARCH AND RESCUE

If you intend to avoid a massive amount of search time, you can very easily search for a specific word or words. If you prefer to check every message which interests you, you might like to use Nicola's powerful search options. Using either specific search criteria (find any messages containing the words 'Amiga' people) or wildcard (*) and any message containing the letters 'and' or 'or', you can use the search facility, conference by conference or search the entire database.

read type. Most people prefer to use the Reference option which lets you read messages in threads rather than the order in which they were posted, but the choice is yours.

Once Nicola has parsed your messages, they are added to a database which is pruned to keep it to a user-definable size.

So, for example, you could specify that it stores any messages in the Amiga conference for 31 days, whilst those in the auction (which is more active) should only be kept for seven.

The real beauty of the program is the options it offers that CIX doesn't. For example, you can choose to attach a toolbar to several of the windows, including the conference window. This means you can perform all activities from reading messages to downloading files using the mouse.

It took me months before I got around to getting hold of Nicola, but now that I have it is as impractical to me as wings are to a bird! It means that I can leisurely read and comment on all of the new messages in my conferences without the pressure of being on-line.

The down side to that is that I now spend hours each day reading and responding to postings on every

subject under the sun.

The program does have some stupid little bugs but, because you pay for a lifetime licence, you can simply download new versions when they become available.

It's going to make a major impact on my phone bills and CIX charges.

GET ADDRESSED

Whenever you receive mail from anyone the program takes their electronic address as well as their CIX ID and adds it to your address book automatically.

If you want to, you can directly add to this information, but the number and full postal address.

This makes it an ideal way of maintaining an up-to-date list of people to whom you're sending private.

because my on-line time has dropped from 30 minutes a day to less than five. Its unique options mean I get the most out of my membership to CIX, and I feel that the service has become far more productive now than it ever was.

A really nice, well-considered product which is a joy to use. **CU**

OFF-LINE READER

**RICHARD HARRISON, 78
TAMWORTH ROAD, HOVE,
EAST SUSSEX, UN 5PH.
TEL 0273 885547**

Key Amiga with 1Mb RAM and a monitor that has at least MWP-2 error correction and a hard disk of 2,400 or above (most new ones do).

EASE OF USE: ++++++85%

Extremely easy to use.

VALUE FOR MONEY: ++++++89%

Excellent value for money - will pay for itself in a couple of months.

FLEXIBILITY: ++++++89%

Very flexible and full of options.

EFFECTIVENESS: ++++++87%

Very effective, but the manual is not for CIX beginners.

INNOVATION: ++++++87%

The best off-line reader for the Amiga.

**An indispensable
program for
CIX users.**

OVERALL 79%



**Jason
Holborn
checks out
Power's new
Primera colour
printer.**

Primera

Choosing a printer that's right for you can be a minefield for the uninitiated – do you buy a dot matrix, an inkjet or a laser printer? Each has its own unique strengths and weaknesses. Dot matrix printers are cheap but low in quality. Lasers give great results but are expensive to buy, expensive to run and (unless you've got a few thousand pounds to spare) messy. Inkjets are perhaps the best compromise, although even top-of-the-range inkjets often leave a lot to be desired when printing pictures.

Choosing a colour printer is even more complicated. Colour dot matrix printers often bleed colour, and colour inkjet printers can look rather washed out.

Power Computing have stepped into the fray with the release of the Primera, a thermal printer manufactured by a little-known US-based company called Fargo. Most of us associate thermal printers with the horrible little Sinclair printer that Spectrum users used to be so proud of, but the Primera is a totally different bucket of bolts altogether. Thermal transfer printing has moved on a long way since the black (chunky) text on silver toilet paper that Sinclair's offering used to employ.

The Primera is based around the latest (thermal transfer) technology that uses a wax-based ink ribbon (actually, it's more like a roll of cling film) which can print on to plain paper or film. Heat from the print head transfers the ink on the ribbon in pixel patterns directly on to the paper. The result is a full-colour print out that is considerably brighter and bolder than the sort of colour print outs you'd expect from either an inkjet or a dot matrix.

Although the Primera has been designed for PC compatibles (Fargo even include a Windows-driver with the printer), Power convinced them that an Amiga driver would be a damned good idea and Fargo came up with the goods in the form of a standard preferences printer driver that will allow the Primera to be driven by just about any program including DPaint and Professional Page. This is included at no extra cost, so you can start printing almost immediately.

The quality of print outs even from the basic Primera is right to behold. Gears are the bleeding colours and horizontal banding associated with more conventional colour printers. Primera's printouts are bold and full of vibrant colour. Available in an extra £215 is an upgrade which gives the Primera true colour printing or – as Fargo would call it – photo-realistic printing. Although the review model we were sent lacked this add-on, Power were kind enough to provide me with a number of samples and the quality has to be seen to be believed.

With virtually no sign of dithering, the Photo-realistic Primera is capable of producing colour prints that are an par with those you see in magazines like CU AMIGA. Indeed, you'd probably be hard pushed to tell the difference between a Primera printout and a professionally colour-sepa-



Printers may seem rather expensive, but the quality of colour print outs is second to none.



rated image produced by an expensive Web-offset press (the type of printout press used to print CU AMIGA).

In many ways, the Primera has an awful lot in common with a professional printing press. Just like the printers used to print CU AMIGA, it works by colour separating the image and then putting the page in three passes – one for yellow, one for magenta and one for cyan. Each time a separation is printed, the printer drags the page-back to the start and then prints the next separation over the top, automatically mixing colours in the process. It's pretty impressive to watch and quite noisy too.

Also available is a special colour ribbon that can print a black separation, adding bolder shades of grey. Primera can handle more than this too, via a separate monochrome ribbon.

The only real problem with the Primera is its running costs. The starter ribbon bundled with the printer will only handle 30 colour pages and once that's used up you have to buy another – which will set you back a further £35.95. Even this ribbon will only handle 115 prints (or just 80 if you buy the extra four colour ribbon). And even then you have to buy special paper which costs £18 for 200 sheets. If you use the Primera for photo-realistic printing (via the £215 upgrade), the cost of ribbons shoots up even further – £79.95 for a ribbon capable of just 25 prints or £250 for 100 prints. If you calculate the cost of each sheet taking into consideration the price of both the ribbon and the paper, you're looking at 42p per print out. Photo-realistic printouts work out at an amazing £3.30 each!

CONCLUSION

Technology this advanced doesn't come cheap and the Primera certainly isn't a cheap printer to either purchase or run. As a result, it's not the sort of printer that will suit the average DPaint fanatic. Sure, we'd all love to own a printer capable of such brilliant results, but the high running costs would

probably cripple even the most affluent. If, on the other hand, you use your Amiga professionally for anything from DTP (ProPage printouts are particularly impressive) to business presentations, Primera is the best colour printer available for under £1,000!

POWER COMPUTING £826

A900 A900+ A900 A1200
A1500 A2000 A3000 A4000

POWER COMPUTING LTD, UNIT 8 ERLINGTON ROAD, WIDSWORTH ROAD INDUSTRIAL ESTATE, KEMPSTON, BEDFORD MK42 7PN, TEL: 0234 543388.

| | |
|--|----------|
| CASE OF USE | ★★★★★64% |
| Including the printer driver is possibly the most computer dependent you'll have to face! | |
| VALUE FOR MONEY | ★★★★★65% |
| The Primera isn't cheap to buy and even having it will break the bank! | |
| DOCUMENTATION | ★★★★★82% |
| The process of setting up the printer is very well explained although it lacks any Amiga-specific information. | |
| PRINT QUALITY | ★★★★★92% |
| No other colour printer in this class drives colour closer! | |

“If you can handle the running costs, Primera is the best colour printer available.”

OVERALL 91%

LEARNING OBJECTIVES




One thing I noticed when reviewing this little RAM accelerator for the A1200 was how difficult it was to fit. In the days of the A500, trapdoor expansions could slide in easier

than a Feharo Rocher into my mouth. The A1200, on the other hand, requires half an hour of swearing, creaking and ripping the skin off your fingers. In the end, though, I got it in, and I have

to say I'm quite glad I did. To explain why, I'll need to tell you about the capabilities of the thing. Power have already released the A1204, so what's so different about this one? Well, for a start it takes SIMMs, which means you can buy the extra memory anywhere. And, unlike most trapdoor expansions, it can take 60ns SIMMs without looking up the PCMCIA card slot! It also contains a battery-backed clock, a space for an FPU (it can take any kind, is not restricted to a particular speed, and it won't conflict with any software). Even so, you can still switch it off via a jumper - but then you can also switch it on the memory with a single flick.

With so many different configurations, you'd expect the prices to fluctuate a little. But with the bare board costing as little as £69.95, the 1206-33MHz Co-Pro and 2Mb of RAM costing £199.99, and the high-end 1208-50MHz Co-Pro and 8Mb RAM costing only £530.95, the unit represents great value for money.

So what does this mean for the end user? If you want to expand the capabilities of your machine, and want to keep on building, then check out something like the forthcoming QVP A1230 II. But if you just want to improve your machine's performance, then this is probably the most system-friendly way of doing it. 

Available from Power Computing, Unit 4 Hutton Road, Woburn Road Industrial Estate, Kempston, Beds, MK42 7PN.

Tel. 0234 343080
Price £69.95 to £530.95

89%

CELLPRO

Scientists have been playing God for years, and now you too can take control of your own little digital Universe thanks to MegaGum. The advent of computer graphics brought about a revolution as scientists learnt that they could not only use the computer for large scale calculations, they could even see the results in an easy to comprehend form.

Of course the first examples of this were boring old graphs and charts. But I won't long before a less up-tight computer user designed a program called Life. Life was partly an entertaining distraction and partly a serious attempt to model the life cycle of simple organisms living under very strictly controlled conditions.

Each organism is represented by a square pixel which can have up to eight neighbours. The exact number of neighbours determines what the organism will do.

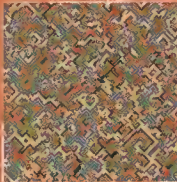
For example, too many neighbours and the organism will die from over-crowding, too few and it dies of loneliness. By the same token, new organisms can spontaneously spring to life if a dormant pixel is surrounded by two neighbours (mummy and daddy).

The entire Life simulation revolves around two simple rules, yet it's absolutely fascinating to see how various starting conditions (the arrangement of dormant and live organisms) can produce vastly different and intriguing results.

Life spawned an entire classification of computer programs known as cellular automata whose sole purpose is to model miniature life spheres. CellPro provides you with an Amiga version of Life, but it also offers five other cellular



Here's another of the well designed automata called Uctian. Cells grow slowly across the screen the larger.



The age old Life simulation is now available on 32-bit.


automata. Whilst all six programs are relatively simple, consisting purely of rules moving neighbours and the status of the cell whose future is being decided, the diversity of effects that is possible is absolutely amazing.

Before you automate a colony, you'll need to set the starting conditions. This is done by leading an IFF screen from disk. Having done so, you select the type of living conditions you want to apply and away you go. The screen will be filled with a seething or bubbling or drooping or a tech-coloured mass of organisms all fighting for survival in their own unique way.

It seems that most types of automata eventually result in a stable colony, where either the same patterns of life and death are endlessly duplicated in short recognisable patterns, or where nothing appears to move at all. Some colonies are even a combination of both.

When you fire at the supplied IFF screens and types of automata, you can design your own based on either a four or eight pixel grid. The smaller grid reduces the number of organisms that influence each other.

CONCLUSION

As an experimental and educational tool, CellPro is very useful. However, I wouldn't like you to think that just because it has educational value it must be boring - far from it. CellPro is a fascinating and thoroughly absorbing taste of the sciences of cellular automata. It is rather expensive, and that reflects the work which has gone into the program and the mere senseless uses to which it can be put. I would have liked to have seen a drawing and magnify function built into the program. But apart from that I liked it. 

Available from MegaGum, 1903 Acacia Santa Maria, California 92454, USA.
Tel. 01 805 349 1104
Price \$59.95

83%

SEAGATE 80MB IDE HARD DRIVE

Everyone wants a hard drive. Whatever your bag, whether it's music, video, DTP, programming or trout farm management, a hard drive will make your existence a lot more bearable. Just think - no more searching through piles of disks to locate that rare Peruvian morfish. Never again will you only disk containing your potential number one hit fall down the all-engulfing black hole behind the desk. And you can kiss goodbye to the dreaded cat peed on my favourite disk syndrome. The trouble is, now that everyone wants one, everyone's selling them in all shapes and sizes (well, not quite all shapes. I've yet to see one in the shape of an individual Mr Kipling apple pie - but give it time).

This particular example comes in the shape of a 2.5" IDE hard drive. It fits into the internal IDE interface of any A500 or A1200. This means that you'll have to take the cover off your computer to get the drive in, which will invalidate your warranty. If you Amiga still has a good stretch left on its warranty, it may be a better idea to get a drive fitted by one of Commodore's officially recommended hard drive installers, such as ZCL. Otherwise, there's no reason why you shouldn't go ahead and do it yourself.

Connecting the Seagate is just a matter of opening up the Amiga's outer casing and plugging the drive into the bus on the circuit board. A short ribbon is included to make the connection. Installing is just about as simple as can be. A very straightforward installation program comes with the drive, with plain instructions on how to prepare and partition it. A simple slider is used to select the balance of disk space that you want to allocate to your boot partition and the main workspace. It's then up to you to copy over the relevant version of Workbench. Speed-wise, it clocks around 400K per sec and according to Sysinfo, which is just about par for the course for a 2.5" IDE drive.

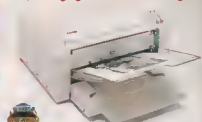
If you're not bothered about invalidating your warranty, and speed isn't a major concern, this could be a very good buy. It's not nearly as fast as some other drives (Software Demon's Ovsdrive wipes the floor with it on that count), but it's cheap, and it works! Now if you'll excuse me, I've got a Japanese trout to locate. **75%**

Available from: INDI Direct, 1 Ringway Industrial Estate, Eastern Avenue, Uptonfield, Stiles, WS13 7SF, Tel: 0543 413 990, Price: £229.99



Measuring just 2.5 inches across, the Seagate IDE packs in 80Mb

COLOUR DYE-SUBLIMATION



AT A FRACTION OF THE COST!

Now you can produce stunning high quality colour outputs on paper, transparency film or even T-shirt transfer paper from your Amiga. The Primera colour printer, recent recipient of countless awards in the IBM-PC and Macintosh markets, is also the perfect companion to any Commodore Amiga.

Primera uses thermal wax transfer technology, a technology usually associated with much higher priced printers.

primera features

Software drivers for Amiga, PC and Macintosh

Prints A4 and A4+ size paper and transparencies

- Monochrome ribbon cartridges available for economical text only printing
- Print full colour 24-bit photographs
- Optional Photo-Realistic upgrade kit (Dye-sublimation)
- Produce photographic quality images for a fraction of the cost of similar devices
- Extremely small footprint, not much larger than A4

Primera printer **£925**

Photo-Realistic upgrade kit **£215.95**

Photo-Realistic refill kit (100 prints) **£250**

Photo-Realistic refill kit (25 prints) **£70.95**

4 Colour ribbon (80 prints) **£39.95**

3 Colour ribbon (115 prints) **£38.95**

Monochrome ribbon (400 prints) **£34.95**

Transparency film (A4 50 sheets) **£31.95**

Primera premium paper (A4 200 sheets) **£19**

T-Shirt transfer paper (A4 10 sheets) **£19.95**

FARGO

telephone 0234 643388



Power Computing Ltd
Unit 8 Railton Road
Woburn Road Ind. Estate
Kempston Bedford MK42 7PN

delivery next day £5.00 2-3 days £2.50 Saturday £10.00
deliveries are subject to stock availability. all prices include VAT 10-11%

COMPUTER WORLD

Free FAST! UK DELIVERY - SAME DAY DESPATCH* - All prices INC. VAT
COMPUTER WORLD-WORKING TOWARDS BRITISH STANDARD BS 6759 FOR QUALITY & SERVICE

Canon

GVP

CITIZEN

NEWLETT PACKARD

Panasonic

SONY

EGVP

EGVP

EGVP

EGVP

EGVP

EGVP

COMPUTER WORLD

COMPUTER WORLD

COMPUTER WORLD

COMPUTER WORLD

COMPUTER WORLD

COMPUTER WORLD

COMPUTER WORLD

COMPUTER WORLD

COMPUTER WORLD

COMPUTER WORLD

COMPUTER WORLD

COMPUTER WORLD

COMPUTER WORLD

COMPUTER WORLD

COMPUTER WORLD PROVIDING YOU WITH THE BEST SERVICE & RANGE

COMPUTER WORLD

COMPUTER WORLD

COMPUTER WORLD

COMPUTER WORLD

COMPUTER WORLD

COMPUTER WORLD

COMPUTER WORLD

COMPUTER WORLD

COMPUTER WORLD

COMPUTER WORLD

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

AMIGO 4000

Evesham Micros

ESTABLISHED FOR
OVER TEN YEARS

WINNER OF TWO PRESTIGIOUS



Customer Service Excellence Support & Service Excellence

TELESALES OPENING TIMES:
WED 9am-5pm THU 9am-5pm FRI 9am-5pm
SAT 9am-5pm SUN 9am-5pm MON 9am-5pm TUE 9am-5pm

HOW TO ORDER

Call us now on
0386 765500

TELESALES OPENING TIMES:
9am - 7pm Monday-Friday
9am - 5.30pm Saturday

Mail Order Fax:
0386 765554

Send Cheque Postal
Access/Visa/Switch
card details to

Evesham Micros Ltd., Dept CUM,
Unit 9, St Richards Road,
Evesham, Worcs WR11 6TD

Overseas: Evesham & PLC orders welcome • Please include delivery (UK Mainland only) • Express Courier Delivery (UK Mainland only) £14.95 • Please note that all banking days must be observed for cheque clearance. Immediate clearance on Bank Days

Credit card orders: **We do not charge**

any delivery charges

as we are despatched



Always a good sign.

AMIGA products are now available from selected RETAIL SHOWROOMS

Next Day Opening Times: Monday-Saturday
Late Night Opening Unit: Unit 9, St Richards Road

EVESHAM

Unit 9 St Richards Rd, Evesham
Worcs WR11 6TD
☎ 0386 765500 fax 0386 765554

BIRMINGHAM

251-255 Moseley Rd, Highgate
Birmingham B12 9EA
☎ 021-446 5050 fax 021 446 5011

TECHNICAL SUPPORT
0386 765405

1 YEAR WARRANTY ON ALL GOODS
Available on items of going to private • All goods subject to inspection • Please note that the warranty is not transferable to the second hand

AMIGA 500 SOLDERLESS RAM UPGRADES

**A500 512K
RAM/CLOCK
UPGRADE**

ONLY £19.99
INC. VAT AND DELIVERY

ALSO WITHOUT CLOCK
FOR ONLY
£16.99

CONVENIENT ON/OFF MEMORY SWITCH • AUTO-RECHARGING
BATTERY BACKED REAL-TIME CLOCK • COMPACT, ULTRA-NEAT DESIGN

**A500 PLUS
1MB RAM
UPGRADE**

**THE FASTEST AND EASIEST WAY TO
UPGRADE YOUR A500+ TO 2MB RAM!**

Simply Plug Into trap door expansion area •
Increases total RAM capacity to 2MB • Chip RAM
• RAM ON/OFF Switch • Convenient unit size •
Only 1 low power RAM ICs • High reliability

ONLY £42.99

**UPGRADE
TO 2MB FOR
ONLY £38.99**

1.5MB RAM BOARD

Fully populated board increases total RAM in A500 to 2MB! • Plug Into trap door area, & connects to GARY chip • Includes Battery-Backed Real-Time Clock & Backlight RAM ICs on 512K/1MB Versions

Unpopulated RAM board with clock

£34.95

With 15Mb FASTRAM Installed... £69.99



'MEGABOARD'

With our MEGABOARD, you can further
expand your A500's memory to a total of
24MB without disposing of your existing
512K upgrade (must be a RAM-Chip type or
not exceeding 2mb in size)

ONLY £47.99



**CONNECTS TO YOUR
512K RAM UPGRADE
TO GIVE 1.5MB**

ROGGEN GENLOCKS PLUS

OFFERING
EXCEPTIONAL VALUE
FOR MONEY, the
Roggen Genlock offers
levels of quality, function
and sophistication not
normally available in this
price category



ONLY £149.99

PHILIPS TV/MONITOR



World exclusive monitor/television model
combines the advantages of a high quality
10" medium resolution colour monitor with
the convenience of remote control Teletext
TV at an exceptional low price! Features dark
glass screen for improved contrast

£249.00

Including VAT,
delivery & cable

VIDI-12 AMIGA NEW

Video capture package
inc VIDI-Chrome

ONLY £179.99

TOP VALUE 400dpi HANDY SCANNER

**QUALITY SCANNING -
AT THE RIGHT PRICE!**

At a genuine 400dpi scanning resolution, the
Scanner produces truly superb quality scans
Has a full 100mm scanning width - variable
brightness control and 100 /
200 / 300 / 400dpi
resolution. Designed
Professional Version 3-
scanning and editing
software allows real time
scanning in either line art or in
up to 64 simulated grey scales
Provides powerful editing features
and excellent compatibility with most
DTP and Postscript packages. eg. QuarkXPress 4, TouchUp. Also
supplied is The Publisher's DeskTop Publishing package ideal for
incorporating your scanned images into flyers and newsletters
and compatible with the A5000

STILL ONLY £99.99

3 1/2" EXTERNAL FLOPPY DRIVES

AMAZING LOW PRICE!

£52.99

Including VAT & delivery

- Very quiet
- Slimline design
- Sturdy anti Amiga
- Cooling vents
- Sleek, high quality
metal casing



- Quality Citizen/Sony drive
mechanism
- Enable / Disable switch
- Full 800K Formatted Capacity
- Long reach connection cable
- Throughport facility for
addition of further drives

**REPLACEMENT A500
INTERNAL 3.5"
DRIVE KIT**



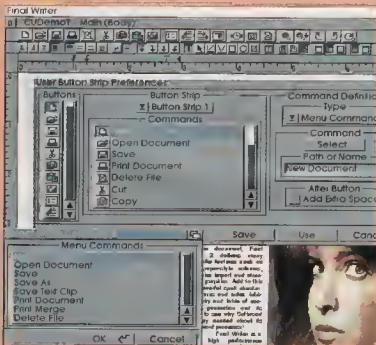
Fully compatible with 15mb
unformatted capacity
Straightforward installation
procedure. Kit includes full
fitting instructions

**ONLY
£44.99**

FINAL WRITER



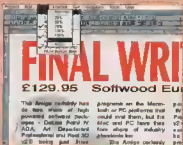
Badged as the ultimate Amiga word processor, Softwood's new *Final Writer* promises much. But can it deliver? We put Jason Holborn on the case to find out.



One of the most powerful features of *Final Writer* is its configurable front end that allows you to tailor the program to your own needs.



Drop shadows and complex logos are very simple to produce. The CU AMIGA logo was created using *Final Writer*'s powerful text box facility.



Just like a DTP program, *Final Writer* allows you to zoom in on your page so you can quickly check any particular section of your layout.

The Amiga certainly has its fair share of high-powered software packages – Deluxe Paint IV, Art Department Professional and Real3D v2.0 are just three examples. Indeed, you'd be hard pushed to find programs to rival them on the Mac or PC. But the Mac and PC have their share of industry standards too.

Where these two machines really excel is with serious applications like databases, spreadsheets and word processors. Sure, Protax on the Amiga is a very powerful package. But put it next to Word for Windows on the PC and you'll soon realise why many people wanting a platform for such programs tend to choose Macs or PCs rather than Amigas.

With the launch of *Final Writer* from Softwood however, the gap could finally be closing. *Final Writer* is the first of a new generation of high-powered packages designed to take on and win against high profile Mac and PC-based word processors.

Softwood have been writing Amiga word processors longer than most of us care to mention, and *Final Writer* demonstrates beautifully the experience they've gained. Building upon the success of Softwood's earlier products *Pen Pal* and *Final Copy*, even its name suggests *Final Writer* is the ultimate Amiga word processor.

The competition may not be so stiff in the Amiga marketplace with programs like Wordworth 2 and Excellent! providing the only challenge, but can Softwood honestly hope to compete against the Mac and PC heavyweights?

BIG IS BEAUTIFUL

If there's one thing that *Final Writer* does have in common with its Mac and PC cousins, it has to be its size. The software requirements. Unless you've got an Amiga with at least 1 MB of RAM and a hard disk, *Final Writer* won't even run. And, even then, you're going to need at least 9 MB of hard disk space to install it!

If hard disk space is tight you can install a cut down version of the *Final Writer* package that takes up a mere 2.5 MB! But even in its cut down form *Final Writer* is one of the biggest applications to grace an Amiga hard disk.

These system requirements may seem rather steep, but *Final Writer* is a lot more than just a fast processor like Amor's Protax. It is another of the new breed of 'word publishers' that have proved so popular with Amiga users. Softwood themselves coined the phrase when *Pen Pal* was originally released back in 1989, and it has since been accepted as jargon for a word processor that also features DTP-like page controls.

Whereas a normal word processor will allow you to process text, the format of that text is left very strict – a single full-width column of text, printed using the fonts built into your printer. A

word publisher, on the other hand, allows you to produce documents complete with pictures and multiple font styles without assuming that you own an expensive laser printer.

BUTTON MOON

Even *Final Writer's* front end is a cut above the rest. If you already own *Final Copy 2*, then you should feel instantly at home as *Final Writer's* front end is a very similar. The only major difference is the two rows of buttons along the top of the screen. *Final Copy 2* had its own buttons, but Softwood have really gone to town with the buttons on *Final Writer*.

Each of these buttons performs a particular task. All the usual buttons to justify left and so on are there. But quite a few of the functions normally found in the *Final Writer* pull-down menus have been moved down to the button bar as well. Simply by clicking on the appropriate button, you can perform common word processing tasks such as cutting, copying and pasting blocks of text without ever having to search through the program's pull-down menu.

Nothing special so far, but *Final Writer's* buttons are far from ordinary. As Softwood have gone to great lengths to explain, the great thing about these buttons is that they are fully configurable. Each one can be changed to suit your own word processing needs, and there are an additional seven strips of buttons which you can lock through with a single mouse click.

Deleting a button is simple. All you do is select the button strip you want to edit, select a button (maybe that suits you, maybe not, who knows, there are plenty to choose from), and then drop it down into the position you'd like it to appear. The buttons are nothing more than generic images, so it's up to you to assign a task to them.

Final Writer allows you to assign one of four different types of operation to a button—an *Arxex* script, a text clip, a *Final Writer* menu operation or a string command. Being able to assign an *Arxex* script to a button is perhaps the most powerful of

all these operations. It gives you the ability to program *Final Writer* so that complex operations that would normally require many steps can be carried out with a single mouse click.

Final Writer's *Arxex* implementation certainly isn't weak either. Virtually every operation you could possibly want to carry out can be performed automatically via *Arxex*. Using the string command specialist gives you access to *Final Writer's* *Arxex* commands too, although only one command can be assigned to each button.

WORD POWER

Once you've configured *Final Writer* to suit your needs, it's time to get stuck into some serious document processing. At its simplest level, *Final Writer* can be used as nothing more than a straight text processor. Just like *Protext*, you can mark sections of text, cut, copy and then paste the block down anywhere in your document. Add to this its powerful search and replace functions and you've got the makings of a decent text processor.

Softwood certainly don't seem to believe in being average. *Final Writer's* predecessor, *Final Copy 2*, was criticised for lacking advanced word processing functions like the automatic generation of tables of contents, bibliographies, end-notes, indexing and so on. Softwood have answered the criticisms by building all of these functions into *Final Writer*.

Final Writer's spell checker is a very impressive spell checker and thesaurus, both of which use the same *Proximity/Collins* Language-based dictionaries used by *Protext*. Many word processors of American origin fall down on this all-important addition. So it's very nice to see that Softwood have seen fit to cater for the needs of UK Amiga users. The spell checker, which includes medical and legal entries, offers over 110,000 entries. And the thesaurus isn't bad either, with over 826,000 synonyms.

Final Writer's spell checker and thesaurus should keep even the most prolific of word bandits happy. Even without the added benefits that a

word publishing program delivers. *Final Writer* could easily stand a good competition on the strength of these word processing functions alone.

PICTURE THIS!

Processing raw text is an important feature of any word processors. But what really makes *Final Writer* different is its treatment of word processors is its word publishing features. The word publisher is certainly nothing new, but *Final Writer* blows the line into new word processing and desktop publishing still further, giving you even more DTP-like features. No longer are you restricted to a single column of text on your pages. *Final Writer* will happily divide the page into six newspaper-like columns with automatic left and right control.

Pictures can be pulled into your documents too. *Final Writer* supports both TIFF and encapsulated PostScript (EPS) structured images which can be displayed either as a black picture box, as a monochrome preview, or in full colour. If you own an AGA-based Amiga, *Final Writer* fully supports the new screen modes provided by the AGA chip set, so pictures can be displayed on screen in up to 256 colours. Running *Final Writer* in 256 colour does slow it somewhat, particularly when your documents become more complex.

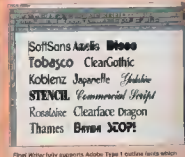
TIP TOP TYPE

Fonts are particularly well handled in *Final Writer*. Apart from its very close cousin *Final Copy 2*, *Final Writer* is still the only Amiga word processor that fully supports *PostScript* Adobe Type 1 fonts. Type 1 font support may seem a rather strange move when you consider the popularity of the *AT&T* *Bitstream* family of fonts on the Amiga. But it's certainly a good thing with hardware of Type 1 fonts available through the Amiga pixel domain. However, to little over the price of a pie.

Copyrightable fonts are still rather hard to obtain, and you'll have to pay through the nose for them. So it comes as no surprise that Softwood have turned their backs on the "ethical" Amiga path to font standards.

They certainly haven't skimped on the number of fonts they handle with the program either. Currently through the ongoing quarterly the *Final Writer* installation program is loaded with over 1200's hard disk. *Final Writer* comes with no less than 110 font fonts in a number of different typfaces. These range from the usual *Helvetica*, *Times* and *Arcade* fonts to more unusual examples such as *Japanese* (an oriental-looking font) and *Yokohama*, a very stylish freethand font.

Final Writer gives you extensive control over the text in your document. As well as the usual point size (*Final Writer* supports point sizes up to 300 points!), style, colour and font controls, you can also adjust the leading amount (the gap between lines) and horizontal width (the stretch in text). And you can even add (stretch) left, giving you much better control when italicising a line. And, as usual, *Final Writer* sure nothing but trifling hints, you'll find remains juggle free, so watch how adventurous you get!



Final Writer fully supports Adobe Type 1 outline fonts which can be printed to any preference-supported printer. Just to get you started, Softwood kindly included 150 free Type 1 fonts!

Final Writer

Final Writer is the most powerful of all word processors. It gives you the ability to program Final Writer so that complex operations that would normally require many steps can be carried out with a single mouse click.

Final Writer's Arxex implementation certainly isn't weak either. Virtually every operation you could possibly want to carry out can be performed automatically via Arxex. Using the string command specialist gives you access to Final Writer's Arxex commands too, although only one command can be assigned to each button.

Once you've configured Final Writer to suit your needs, it's time to get stuck into some serious document processing. At its simplest level, Final Writer can be used as nothing more than a straight text processor. Just like Protext, you can mark sections of text, cut, copy and then paste the block down anywhere in your document. Add to this its powerful search and replace functions and you've got the makings of a decent text processor.

Softwood certainly don't seem to believe in being average. Final Writer's predecessor, Final Copy 2, was criticised for lacking advanced word processing functions like the automatic generation of tables of contents, bibliographies, end-notes, indexing and so on. Softwood have answered the criticisms by building all of these functions into Final Writer.

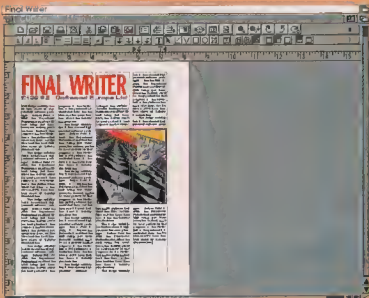
Final Writer's spell checker is a very impressive spell checker and thesaurus, both of which use the same Proximity/Collins Language-based dictionaries used by Protext. Many word processors of American origin fall down on this all-important addition. So it's very nice to see that Softwood have seen fit to cater for the needs of UK Amiga users. The spell checker, which includes medical and legal entries, offers over 110,000 entries. And the thesaurus isn't bad either, with over 826,000 synonyms.

Final Writer's spell checker and thesaurus should keep even the most prolific of word bandits happy. Even without the added benefits that a

Final Writer gives you extensive control over the text in your document. As well as the usual point size (Final Writer supports point sizes up to 300 points!), style, colour and font controls, you can also adjust the leading amount (the gap between lines) and horizontal width (the stretch in text). And you can even add (stretch) left, giving you much better control when italicising a line. And, as usual, Final Writer sure nothing but trifling hints, you'll find remains juggle free, so watch how adventurous you get!

Final Writer fully supports Adobe Type 1 outline fonts which can be printed to any preference-supported printer. Just to get you started, Softwood kindly included 150 free Type 1 fonts!

Final Writer's picture handling is very impressive indeed. If you're lucky enough to own an AGA Amiga, *Final Writer* will even display your graphics with up to 256 colours.



Close’ Mother also identifies a male, brownish feature within nature as a scaled representation of what Descartes

» EPS support is particularly well implemented. Even if the EPS file does not have a bitmap header, *Final Writer* will still allow you to view it on screen in full colour.

Even *Professional Page* didn't have this feature until recently, so it's nice to see that Softwood are keeping up with the Joneses! Just like its predecessors, *Final Writer* gives

PRINTS CHARMING

Your page may look nice on screen, but it's of no use whatever unless you can transfer that quality to paper. Thankfully, Final Writer does it all for me either. Not only can you print in any standard preference-supported printer with the sort of quality results you'd normally expect from PostScript, but Final Writer also provides dual support for PostScript printers. Software have certainly gone to town on Final Writer's PostScript implementation with full support for humongous size scaling and even (ha!)reticles) metrics.

Final Writer provides two forms of print/preview printing—literal and draft. If you print in literal mode, the entire document is printed in exactly the same way as a DTP program with all the fonts and graphics rolled up as a massive bitmap which is good in the printer as a screen dump. In draft mode, however, only the graphics are generated by Final Writer. The text within your document is printed using your printer's own internal fonts. This gives a much faster printing time and the results can look a little weird to say the least.



Final Writer is one of the first Amiga word processors to support PostScript printing as standard.

you extensive control over your pictures. You can scale them to your heart's content, and it's possible to contour text around a bitmapped image simply by setting the background colour to transparent mode.

Also, just like a DTP program, you're given full control over the 'text stand off' setting (how close the text flows around the image).

BOX CLEVER

One of the stand-out features unique to *Final Writer* is the "textbox." These text boxes are very similar to the text boxes in Soft-Logic's PageStream DTP program. Although each text box that you create is limited to a single, short line of text, the text you put in a text box is kept completely separate from your document's main copy.

What's more, the tool inside the box can be stretched and spread horizontally and vertically simply by dragging the 'durdine' on the four points of the box.

These last boxes aren't particularly handy when you want to create a massive logo using outline text. Instead of having to work out the exact horizontal scale and point size of your heading, you can simply drag the heading's text box to the shape you want and *Font Writer* will automatically adjust its size. Clavis on and saves you a lot of time and a weary fiddling about!



Final Writer's text boxes are very similar to the scalable boxes in PageStream. The text within a text box can be stretched, shrunk, and indented with ease.

CONCLUSION

Final Copy 2, Final Writer's predecessor, was hailed as 'about as close to being a desktop publisher as a word processor dare go' when we reviewed it back in the April issue of CU AMIGA. It seems like Softwood have managed to push back the boundaries still further without losing sight of the program's word processing origins. They have made Final Writer a more capable word publisher and one hell of a word processor too! Indeed, if you were to judge Final Writer on its word processing capabilities alone, it would still earn its top rating with limbo colours!

Final Writer certainly isn't the answer to every one's word processing and word publishing needs. If you're a professional writer who can live without the fancy page layout controls the program has to offer then a dedicated word processing program like *Protext* is still possibly a better bet.

Even if you do want a word publisher, *Final Writer's* system requirements may force many to go for a less capable program.

If you do have a machine that can handle Final Writer's requirements, an accelerated Amiga is a must — even on my A4000/030, Final Writer started to drag its heels when working with complex pages containing lots of pictures. Try it on an A500 or A800 and you'll be waiting all day for the screen to update!

This would certainly be a great shame because you'll be missing out on what is undoubtedly the Amiga's most powerful word publishing program. *Wordworth 2* AGA comes close, but *Final Writers* batter on nearly every front, raw text processing, graphics handling, printing, font control, etc.

Indeed, there are considerably few aspects of Final Writer that are anything less than exceptional. On an accelerated machine, Final Writer is the top Amiga word processor to rival even the Mac and PC heavyweights! (C)

SOFTWOOD UK: £129.95

| | | | |
|-------|-------|-------|-------|
| A500 | A500+ | A600 | A1200 |
| A1500 | A2000 | A3000 | A4000 |

- Needs 1.5 Mb of RAM and a hard drive.

SOFTWOOD PRODUCTS EUROPE, NEW STREET, ALFRETON, DERBYSHIRE
DE55 7BP. TEL: 0773 636781.

FALSE OF USE

You'll need to study the manual for some of the Writer's more complex functions, but the rest is blindingly obvious.

VALUE FOR MONEY

Selling for the same price as Digitec's Wordworth 2 AEA, Final Writer is an absolute bargain.

DOCUMENTATION

Totally top notch — other software companies could learn a thing or two from Softwood!

FLEXIBILITY

Those user-definable buttons are a great idea. Now you can set up a program to work how you want it to.

The most powerful word processor ever to grace the Amiga.

OVERALL

90%

POSTAGE IN UK £0.80 PER ORDER
P&P FREE ON SINGLE DISK IN UK ONLY
EUROPE +359 02 92 00 00 00

SOMETHING Wonderful HAS HAPPENED!

A NEW MAGAZINE FOR THE AMIGA HAS JUST BEEN LAUNCHED!

DO NOT adjust your copy of CU AMIGA. We're going to tell you about a completely new magazine dedicated to the Amiga. Why should we want to tell you about a rival publication? Because it's been written by the CU AMIGA team and we're all rather excited about it.

Inside its 180-packed pages, you'll find literally hundreds of product reviews covering everything from the top Amiga games through to the best graphics and music packages available. What's more there's a comprehensive hardware section, covering everything from memory expansions, external drives and hard drives through to mice, joysticks and accelerator cards. But that's not all - there are chapters devoted to the CD32 and CDTV, Amiga books, Programming, DTP, DTV education and Business software.

The *Ultimate Amiga Buyer's Guide '94* is jam-packed with expert opinion on which Amiga packages are worth buying - and which ones

are best left on the shelves! We've reviewed and rated all the top Amiga products so you'll know which packages offer outstanding value for money and which ones don't. It's the buyer's guide to end all buyer's guides from the team you know you can trust to speak out against poor quality software.

The *Ultimate Amiga Buyer's Guide '94* is your definitive one stop guide to all you need to know about Amiga software and hardware.

DON'T MISS IT.



THE ULTIMATE AMIGA BUYER'S GUIDE '94
OUT NOW IN ALL GOOD NEWSAGENTS

Textures

John Kennedy looks at some more hot new textural and editing tools for all Amiga image readers.

Alternative 3D Textures

Last month in the pseudo-regular 3D spot, the *Imagine*-compatible program *Essence* made a convincing appearance with some organic textures. This month I go back to some less up-to-date rendering technology with some good old-fashioned bitmaps.

If there is one problem with the procedural textures such as those generated by *Essence*, it's the fact that sometimes it can be hard to create a particularly natural scene without knocking *Essence*, but there is still a case for some good old-fashioned textures – especially if you're comfortable with *Real3D* rather than *Imagine*.

Getting hold of suitable images can be a bit of a problem because if you are trying to produce top-notch images the bitmaps need to be extremely clear and colourful. In the past I've had limited access to a professional artwork company's scanning facilities and the results from ordinary colour photos are simply astonishing. The best of a good image is to render it in 16 colours – if it still looks good, then it's good enough to use in 4-bit images.

Fortunately not everyone is lucky enough to have my mate Dan, the scanner operator, which means not everyone can get hold of professionally scanned images.

The alternative, of course, is the UK company synonymous with Amiga image rendering. Alternative are offering volume two of a disk set of textures ready for you to play with in your favourite rendering program, supplied neatly packed into a video cassette box. Each disk contains 100 of the texture, but before you start complaining about value for money...



Texture overload: this image shows just a small part of the dozen bit textures available in the set.

cluttered with many different versions (or, to be more precise, memory to burn) (or at least 24Mb of, as it were) there is a lot of 24-bit versions, and for this is well endowed there are RAM and 8-colour IFF files. An image's suitability for bump mapping is included. No matter what rendering program or Amiga you use, there will be at least one form each texture you can use.

100% NATURAL

The textures in volume two of the natural surfaces you'll find plenty of things which stone has the perfect for adding a lot of texture and spiciness and being used as the background for logos, of course. The best part of the textures is that they are different from each other. It's an



This image demonstrates the nice bitmaps and color textures from Alternative Images Production's set of textures.

TEXTURES: BITMAPPED OR PROCEDURAL?

Most 3D rendering programs offer a way of controlling the appearance of an object by adding a texture. Often the texture is bitmapped, which is to say it's nothing more than a picture created with a paint program or digitizer.

Programs such as *Imagine* and *Real3D* also offer procedural textures, which create the look by means of mathematical formulae. The advantage of procedural textures is that very little memory is required – all the details are generated on the fly pixel by pixel. Although capable of creating some stunning results, it is often the case that a more natural or realistic texture is required. In these situations, you can't beat a well-drawn or digitized bitmap. The disadvantage with bitmaps is that they can consume a lot of memory very quickly. It's only possible to use half a dozen 24-bit textures in an image before an Amiga with 8Mb of RAM starts to

crash. On a wrap-up, the textures are a great way to get some interesting results. Included in the set are two available separately if required, are two disks aimed at image users. These disks are

Object Interface Junior



CONCLUSION

After looking at some of the images taken from PhotoCDs and professional scanners I have to say I've seen a lot better. I wouldn't feel particularly happy about using them as backdrops for multimedia presentations as suggested, especially as the limited size (400x400 maximum) means overlap is a no-no.

However, when put to their primary use as bitmapped textures in rendering programs, any advantages are quickly forgotten. All rendered scenes will be improved beyond measure by the addition of some realistic textures and that's exactly what Alternative offers by the dozen. Apparently, volume 3 of the growing set of textures is in the offing, and this time the images will be full over-scan and JPEGed. Even better: there will be a large collection of Real 3D objects from Alternative's own library - and we'll bring you a preview as soon as we get it.

ALTERNATIVE IMAGE PROD. £40

☐ \$500 ☐ \$500+ ☐ \$1000 ☐ \$1200

A1500 ☒ A2000 ☒ A3000 ☒ A4000 ☒

**ALTERNATIVE IMAGE PRODUCTIONS, 6
LOTNAIR ROAD, LEICESTER, LE2 7QB.
TEL: 0533 440041**

EASE OF USE

As noted in the 2008 *Journal of American Studies* discussion

VALUE FOR MONEY

Rate of change and growth of the *in situ*

FLEXIBILITY

Not a particularly wide choice of textures, mostly stone and marble. Fabric upholstery looks out the subject matter.

EFFECTIVENESS

Good features add the final touch to my search.

**Fine software from the Amiga
image experts.**

OVERALL 80%

OBJECT INTERFACE JUNIOR

For some weird and time warping reason we seem to have a complete repeat of last month's issue of GU, for not only do we have a texture program to look at, but a new 3D object editor as well.

Object Interface Junior (OBI) is a similar program to Pixel 3D Professional in that it converts 3D objects between formats. But its one big advantage is that it deals with the only major criticism I levelled at *PixPro* – support for Real 3D objects.

Although the Amiga IFF standard works very well for swapping images and sounds, there isn't a standard way of swapping objects between rendering programs – a spaceship created with *Imagine* cannot be directly loaded into *Real 3D* and vice versa.

The big problem is that *Real3D* works differently from other rendering programs in the way it constructs objects from primitive shapes (cubes, spheres and so on), stretched and tweaked in various ways. Most other rendering programs use triangular or polygonal faces to make up the objects and apply smoothing algorithms to remove any rough edges. Translating between the two forms is difficult, but not impossible — after all, *Real* comes with a program which converts *Soft* objects.

PixPro doesn't come with such an option, which means a two-stage operation in any translation. The good news is that OGI will save Real 3D objects but the bad news is that it won't load the them. This means there is still a gap in the market for the perfect image-rendering program.


FORMATS

Object Interface is a very flexible program, in that it uses universal loading and saving modules to support different object formats. Currently OBI comes with the following loaders: Catligar, Imagine, Affixions, Script-4D and Visionscape. It also comes with the following savers: Catligar, Imagine, Hear3D, Affixions and Script-4D.

You may find that, due to the translation process, objects start to use up a lot more memory than they did previously in another format. For example, a logo drawn in Deluxe Paint and converted to an *Imagine* object will use a heck of a lot more RAM while still being a *Real 3D* object.

Applies To heavily go where an object has gone before – like Real 3D with its Depth of Field rendering.

Q&A is a German program. There are two reasons I know this: the material is full of silly grammar, and the requesters all say 'Nein' and 'Ja'. Obviously this should be fixed as soon as possible – I'm not xenophobic, but I really don't know what 'richtig zeichnen' means.

Depending on the price and availability of this program, it will provide some serious competition to the rather expensive *PixPro*. It lacks any editing features, but it does "swap" objects between all the major programs which means it could come in very handy some day. 



At last I can load all my favorite image objects and re-save them directly for Real 3D. OBJ will display the object in wire frame, solid or colour.

BYCC ETBA

| ASD | ASD+ | ASD- | A1200 |
|-----|------|------|-------|
| 1 | 1 | 1 | 1 |

*Requires Workbench 2

BVCC, FLAT 10, 46 WINDSOR ROAD, EALING, LONDON W5 5PE. TEL: 081 567 4623

EASE OF USE

Apart from some non-specific measures, very inhibitory.

EFFECTIVENESS

Stop at limit: Just all but one object tested every time.

FLEXIBILITY

Most of the popular image rendering formats are supported – need to see that 3D

“ Serious competition to the rather expensive PixPro. ”

OVERALL 91%

Assassins Game Compilations

The best selection of PD games ever assembled anywhere now all antibiotic on A1200 (though not all the games will run) Here are a selection of the most popular:

- AS1 Text Riflepoint, Armani Amiguels
- AS2 Invaders, Billy's MEGA-PACK
- AS3 Megastal 81 Dmp MEGA-PACK
- AS4 Pacman, Dorewell, Challenge, Wellness
- AS5 Features Battle zone & Blastaz
- AS6 Escape, Peppine, Picotone & Sky
- AS11 Daid, Conson, Reverse Towers & Troppa
- AS12 Limestone, Cha XPS MEGA-PACK
- AS13 Twanna, Smele, Smele & Ball etc

ASSASSINS

MENU

- AS14 Chua, Chai Coleman MEGA-PACK
- AS15 Bannin, Lemax & Macbrunson
- AS16 Warrington, Mawson X, Pacman
- AS17 Tonal, Delat, Delat, X, Pacman
- AS20 Mierhols Hollywood Jawn, Cha deep
- AS21 Zena Trest, Bannin & Dagonites
- AS22 Lennardson, Wazy, Quest, X, Pacman
- AS23 Quick Jazzy, JF, JF, JF, JF, JF, JF, JF, JF
- AS24 Revenge of Cattle, Fun, MEGA-PACK
- AS25 Mr. Truck, Caper, Jem, Jem, Jem, Jem
- AS26 Superpenn, Smele, MEGA-PACK
- AS27 Card games, MEGA-PACK, D, D, D, D, D
- AS28 Docks, Docks, Docks, Docks, Docks
- AS29 DOG, Rone, Nova, B-Bal, QARDS
- AS30 Bicon & Blist, Total Fire, Tank, Tank
- AS31 ARCADE, Crazy, pipe, pipe, pipe, pipe
- AS32 Hyperball & War
- AS34 Tridhater, Yelp, Gye, Rubezar
- AS35 Pong, Snakey, C, Jem, Jem, Jem, Jem
- AS36 Word, Jem, Dorewell, MEGA-PACK
- AS37 Kialah, Ghorsh, Jem, Jem, Jem, Jem
- AS38 Two card games MEGA-PACK
- AS40 Disk full of shelling, Nock, puzzle, game
- AS41 Pacman, Hallowe, MEGA-PACK
- AS42 Jazzy, Ingrid, Allen MEGA-PACK
- AS43 Jazzy, Jazzy, Jazzy, Jazzy, Jazzy, Jazzy
- AS44 Nibbles, Mame, Impossible, Ball, etc
- AS45 Dink, Pacheco, B-Cauld, Tenore, etc
- AS46 Amys, Q, City Checkers, Ques, etc
- AS47 Deathbringer, in space, Ques, etc
- AS48 Lancers, Fighting, Warrior, Space
- AS49 Vesat, Invaders, Macintosh, etc
- AS50 Smele, Smele, Q, Q, Q, Q, Q, Q, Q, Q
- AS51 Chusa, Pacman & Antimack
- AS52 Poo-pong, Dorewell, Dazy, Sogno
- AS53 Super nuff & Mayson, etc
- AS54 Turbs, three G200 & Legends
- AS55 Pipe mania, Alien, Hooter & Chiders
- AS56 Noolah, Poney & Dine, etc
- AS57 Olivoball, Jazzy, Jazzy, Jazzy, Jazzy
- AS58 Farnside, Chua, Word, Puzzles
- AS59 Cow & Antismatter & Asolien

- AS59 Stage of the Throat, Type B & Velour
- AS60 Destruction, MEGA-PACK, Bannin & Alton
- AS61 Khloida, Chua, Pake, Budge, etc
- AS70 Waigle & Temi, pen, MEGA-PACK
- AS71 Nouron, Bannin, MEGA-PACK
- AS75 Lazon, Concession & Challenge
- AS76 Crazy pines, LJBannity & Chua
- AS77 Gna, Chua, Cuth & Grah
- AS78 Rallouney, Cliff, Jazzy & Descond
- AS79 Lila Boulder, Hunderman, Jem, Jem
- AS80 Haverly, Mame, Pake, Q, Q, Q, Q, Q, Q
- AS81 Nouron, Bannin, MEGA-PACK
- AS82 Antismatter, Shute, run, Arcade, Volleyball
- AS83 Loudmystery, Pong & Spider (Cartoon)
- AS84 Lord of the Hunt, Legend of Leshan
- AS87 Aztec Challenge, Jazzy, Jazzy, Jazzy
- AS88 Megastal 71, Chua, MEGA-PACK
- AS92 Bill, Obidell, & Scholans, Super
- AS94 Super, Jazzy, Jazzy, Jazzy, Jazzy, Jazzy
- AS95 Premium, Jazzy, Jazzy, Jazzy, Jazzy, Jazzy
- AS96 Dampp, Flipper, Bannin, Jazzy
- AS100 Hunderman, Mame, MEGA-PACK
- AS102 First, Saled, Pacman, MEGA-PACK
- AS103 Nouron, Bannin, MEGA-PACK
- AS106 Commed, B, Mame, Mame
- AS107Sene, IT 4 new, 31 Ego, Jazzy & Yacta
- AS108 Poyal, Chua, Bannin, Jazzy, Jazzy

ASSASSINS

MENU

- AS110 Space, Mame, Talm, Zeng, Hunderman
- AS113 Trnk, Inyay, Poye, MEGA-PACK
- AS114 Insects, B, Y, Y, Y, Y, Y, Y, Y, Y
- AS115 Jazzy, Jazzy, Jazzy, Jazzy, Jazzy, Jazzy
- AS116 Bill, Diamond & TSCH, Sorry
- AS117 Ahsany, Yoyg, Triple, Yoyg
- AS118 Hunderman, Ahsany, Jazzy, Jazzy, Jazzy
- AS119 Rorokod, Seld, Tok, Tok
- AS123 Antismatter, L, Lennard, Yaltnet
- AS124 M & M, M, M, M, M, M, M, M, M, M
- AS125 Marble, Slide, Gladstone, Pacman, Gna
- AS126 Short, On, Kymaton, K, D, Dodge, Ene
- AS128 Space, In, Pachin, Dorewell, Solar, Waz
- AS134 C, C, C, C, C, C, C, C, C, C, C, C
- AS135 Gannon, Acd, Acd, Pipelene, J, Tetra
- AS136 Hot, Hot, Super, Pong, Shifhark
- AS137 Shacker, Dorewell, Sogno, Jazzy
- AS138 Galdon, Smele, Talm, X, Hocky
- AS139 The Bug, Gue, Ben, Dog, Antismatter
- AS140Mame, Mame, Mame, Mame, Mame, Mame
- AS142 Nook, Galaxy, 91, Courtown
- NURY BIAN ALVAYS ARAVINY
- RING ROLF STEPS

Utilities

- PU 011 HORTHENS and STARCHART Good
- PU 012 HORTHENS and STARCHART Good
- PU 013 HORTHENS and STARCHART Good
- PU 014 HORTHENS and STARCHART Good
- PU 015 HORTHENS and STARCHART Good
- PU 016 HORTHENS and STARCHART Good
- PU 017 HORTHENS and STARCHART Good
- PU 018 HORTHENS and STARCHART Good
- PU 019 HORTHENS and STARCHART Good
- PU 020 HORTHENS and STARCHART Good
- PU 021 HORTHENS and STARCHART Good
- PU 022 HORTHENS and STARCHART Good
- PU 023 HORTHENS and STARCHART Good
- PU 024 HORTHENS and STARCHART Good
- PU 025 HORTHENS and STARCHART Good
- PU 026 HORTHENS and STARCHART Good
- PU 027 HORTHENS and STARCHART Good
- PU 028 HORTHENS and STARCHART Good
- PU 029 HORTHENS and STARCHART Good
- PU 030 HORTHENS and STARCHART Good
- PU 031 HORTHENS and STARCHART Good
- PU 032 HORTHENS and STARCHART Good
- PU 033 HORTHENS and STARCHART Good
- PU 034 HORTHENS and STARCHART Good
- PU 035 HORTHENS and STARCHART Good
- PU 036 HORTHENS and STARCHART Good
- PU 037 HORTHENS and STARCHART Good
- PU 038 HORTHENS and STARCHART Good
- PU 039 HORTHENS and STARCHART Good
- PU 040 HORTHENS and STARCHART Good
- PU 041 HORTHENS and STARCHART Good
- PU 042 HORTHENS and STARCHART Good
- PU 043 HORTHENS and STARCHART Good
- PU 044 HORTHENS and STARCHART Good
- PU 045 HORTHENS and STARCHART Good
- PU 046 HORTHENS and STARCHART Good
- PU 047 HORTHENS and STARCHART Good
- PU 048 HORTHENS and STARCHART Good
- PU 049 HORTHENS and STARCHART Good
- PU 050 HORTHENS and STARCHART Good
- PU 051 HORTHENS and STARCHART Good
- PU 052 HORTHENS and STARCHART Good
- PU 053 HORTHENS and STARCHART Good
- PU 054 HORTHENS and STARCHART Good
- PU 055 HORTHENS and STARCHART Good
- PU 056 HORTHENS and STARCHART Good
- PU 057 HORTHENS and STARCHART Good
- PU 058 HORTHENS and STARCHART Good
- PU 059 HORTHENS and STARCHART Good
- PU 060 HORTHENS and STARCHART Good
- PU 061 HORTHENS and STARCHART Good
- PU 062 HORTHENS and STARCHART Good
- PU 063 HORTHENS and STARCHART Good
- PU 064 HORTHENS and STARCHART Good
- PU 065 HORTHENS and STARCHART Good
- PU 066 HORTHENS and STARCHART Good
- PU 067 HORTHENS and STARCHART Good
- PU 068 HORTHENS and STARCHART Good
- PU 069 HORTHENS and STARCHART Good
- PU 070 HORTHENS and STARCHART Good
- PU 071 HORTHENS and STARCHART Good
- PU 072 HORTHENS and STARCHART Good
- PU 073 HORTHENS and STARCHART Good
- PU 074 HORTHENS and STARCHART Good
- PU 075 HORTHENS and STARCHART Good
- PU 076 HORTHENS and STARCHART Good
- PU 077 HORTHENS and STARCHART Good
- PU 078 HORTHENS and STARCHART Good
- PU 079 HORTHENS and STARCHART Good
- PU 080 HORTHENS and STARCHART Good
- PU 081 HORTHENS and STARCHART Good
- PU 082 HORTHENS and STARCHART Good
- PU 083 HORTHENS and STARCHART Good
- PU 084 HORTHENS and STARCHART Good
- PU 085 HORTHENS and STARCHART Good
- PU 086 HORTHENS and STARCHART Good
- PU 087 HORTHENS and STARCHART Good
- PU 088 HORTHENS and STARCHART Good
- PU 089 HORTHENS and STARCHART Good
- PU 090 HORTHENS and STARCHART Good
- PU 091 HORTHENS and STARCHART Good
- PU 092 HORTHENS and STARCHART Good
- PU 093 HORTHENS and STARCHART Good
- PU 094 HORTHENS and STARCHART Good
- PU 095 HORTHENS and STARCHART Good
- PU 096 HORTHENS and STARCHART Good
- PU 097 HORTHENS and STARCHART Good
- PU 098 HORTHENS and STARCHART Good
- PU 099 HORTHENS and STARCHART Good
- PU 100 HORTHENS and STARCHART Good

Demos

- PU 001 HORTHENS and STARCHART Good
- PU 002 HORTHENS and STARCHART Good
- PU 003 HORTHENS and STARCHART Good
- PU 004 HORTHENS and STARCHART Good
- PU 005 HORTHENS and STARCHART Good
- PU 006 HORTHENS and STARCHART Good
- PU 007 HORTHENS and STARCHART Good
- PU 008 HORTHENS and STARCHART Good
- PU 009 HORTHENS and STARCHART Good
- PU 010 HORTHENS and STARCHART Good
- PU 011 HORTHENS and STARCHART Good
- PU 012 HORTHENS and STARCHART Good
- PU 013 HORTHENS and STARCHART Good
- PU 014 HORTHENS and STARCHART Good
- PU 015 HORTHENS and STARCHART Good
- PU 016 HORTHENS and STARCHART Good
- PU 017 HORTHENS and STARCHART Good
- PU 018 HORTHENS and STARCHART Good
- PU 019 HORTHENS and STARCHART Good
- PU 020 HORTHENS and STARCHART Good
- PU 021 HORTHENS and STARCHART Good
- PU 022 HORTHENS and STARCHART Good
- PU 023 HORTHENS and STARCHART Good
- PU 024 HORTHENS and STARCHART Good
- PU 025 HORTHENS and STARCHART Good
- PU 026 HORTHENS and STARCHART Good
- PU 027 HORTHENS and STARCHART Good
- PU 028 HORTHENS and STARCHART Good
- PU 029 HORTHENS and STARCHART Good
- PU 030 HORTHENS and STARCHART Good
- PU 031 HORTHENS and STARCHART Good
- PU 032 HORTHENS and STARCHART Good
- PU 033 HORTHENS and STARCHART Good
- PU 034 HORTHENS and STARCHART Good
- PU 035 HORTHENS and STARCHART Good
- PU 036 HORTHENS and STARCHART Good
- PU 037 HORTHENS and STARCHART Good
- PU 038 HORTHENS and STARCHART Good
- PU 039 HORTHENS and STARCHART Good
- PU 040 HORTHENS and STARCHART Good
- PU 041 HORTHENS and STARCHART Good
- PU 042 HORTHENS and STARCHART Good
- PU 043 HORTHENS and STARCHART Good
- PU 044 HORTHENS and STARCHART Good
- PU 045 HORTHENS and STARCHART Good
- PU 046 HORTHENS and STARCHART Good
- PU 047 HORTHENS and STARCHART Good
- PU 048 HORTHENS and STARCHART Good
- PU 049 HORTHENS and STARCHART Good
- PU 050 HORTHENS and STARCHART Good
- PU 051 HORTHENS and STARCHART Good
- PU 052 HORTHENS and STARCHART Good
- PU 053 HORTHENS and STARCHART Good
- PU 054 HORTHENS and STARCHART Good
- PU 055 HORTHENS and STARCHART Good
- PU 056 HORTHENS and STARCHART Good
- PU 057 HORTHENS and STARCHART Good
- PU 058 HORTHENS and STARCHART Good
- PU 059 HORTHENS and STARCHART Good
- PU 060 HORTHENS and STARCHART Good
- PU 061 HORTHENS and STARCHART Good
- PU 062 HORTHENS and STARCHART Good
- PU 063 HORTHENS and STARCHART Good
- PU 064 HORTHENS and STARCHART Good
- PU 065 HORTHENS and STARCHART Good
- PU 066 HORTHENS and STARCHART Good
- PU 067 HORTHENS and STARCHART Good
- PU 068 HORTHENS and STARCHART Good
- PU 069 HORTHENS and STARCHART Good
- PU 070 HORTHENS and STARCHART Good
- PU 071 HORTHENS and STARCHART Good
- PU 072 HORTHENS and STARCHART Good
- PU 073 HORTHENS and STARCHART Good
- PU 074 HORTHENS and STARCHART Good
- PU 075 HORTHENS and STARCHART Good
- PU 076 HORTHENS and STARCHART Good
- PU 077 HORTHENS and STARCHART Good
- PU 078 HORTHENS and STARCHART Good
- PU 079 HORTHENS and STARCHART Good
- PU 080 HORTHENS and STARCHART Good
- PU 081 HORTHENS and STARCHART Good
- PU 082 HORTHENS and STARCHART Good
- PU 083 HORTHENS and STARCHART Good
- PU 084 HORTHENS and STARCHART Good
- PU 085 HORTHENS and STARCHART Good
- PU 086 HORTHENS and STARCHART Good
- PU 087 HORTHENS and STARCHART Good
- PU 088 HORTHENS and STARCHART Good
- PU 089 HORTHENS and STARCHART Good
- PU 090 HORTHENS and STARCHART Good
- PU 091 HORTHENS and STARCHART Good
- PU 092 HORTHENS and STARCHART Good
- PU 093 HORTHENS and STARCHART Good
- PU 094 HORTHENS and STARCHART Good
- PU 095 HORTHENS and STARCHART Good
- PU 096 HORTHENS and STARCHART Good
- PU 097 HORTHENS and STARCHART Good
- PU 098 HORTHENS and STARCHART Good
- PU 099 HORTHENS and STARCHART Good
- PU 100 HORTHENS and STARCHART Good

Music

- PM 001 HORTHENS and STARCHART Good
- PM 002 HORTHENS and STARCHART Good
- PM 003 HORTHENS and STARCHART Good
- PM 004 HORTHENS and STARCHART Good
- PM 005 HORTHENS and STARCHART Good
- PM 006 HORTHENS and STARCHART Good
- PM 007 HORTHENS and STARCHART Good
- PM 008 HORTHENS and STARCHART Good
- PM 009 HORTHENS and STARCHART Good
- PM 010 HORTHENS and STARCHART Good
- PM 011 HORTHENS and STARCHART Good
- PM 012 HORTHENS and STARCHART Good
- PM 013 HORTHENS and STARCHART Good
- PM 014 HORTHENS and STARCHART Good
- PM 015 HORTHENS and STARCHART Good
- PM 016 HORTHENS and STARCHART Good
- PM 017 HORTHENS and STARCHART Good
- PM 018 HORTHENS and STARCHART Good
- PM 019 HORTHENS and STARCHART Good
- PM 020 HORTHENS and STARCHART Good
- PM 021 HORTHENS and STARCHART Good
- PM 022 HORTHENS and STARCHART Good
- PM 023 HORTHENS and STARCHART Good
- PM 024 HORTHENS and STARCHART Good
- PM 025 HORTHENS and STARCHART Good
- PM 026 HORTHENS and STARCHART Good
- PM 027 HORTHENS and STARCHART Good
- PM 028 HORTHENS and STARCHART Good
- PM 029 HORTHENS and STARCHART Good
- PM 030 HORTHENS and STARCHART Good
- PM 031 HORTHENS and STARCHART Good
- PM 032 HORTHENS and STARCHART Good
- PM 033 HORTHENS and STARCHART Good
- PM 034 HORTHENS and STARCHART Good
- PM 035 HORTHENS and STARCHART Good
- PM 036 HORTHENS and STARCHART Good
- PM 037 HORTHENS and STARCHART Good
- PM 038 HORTHENS and STARCHART Good
- PM 039 HORTHENS and STARCHART Good
- PM 040 HORTHENS and STARCHART Good
- PM 041 HORTHENS and STARCHART Good
- PM 042 HORTHENS and STARCHART Good
- PM 043 HORTHENS and STARCHART Good
- PM 044 HORTHENS and STARCHART Good
- PM 045 HORTHENS and STARCHART Good
- PM 046 HORTHENS and STARCHART Good
- PM 047 HORTHENS and STARCHART Good
- PM 048 HORTHENS and STARCHART Good
- PM 049 HORTHENS and STARCHART Good
- PM 050 HORTHENS and STARCHART Good
- PM 051 HORTHENS and STARCHART Good
- PM 052 HORTHENS and STARCHART Good
- PM 053 HORTHENS and STARCHART Good
- PM 054 HORTHENS and STARCHART Good
- PM 055 HORTHENS and STARCHART Good
- PM 056 HORTHENS and STARCHART Good
- PM 057 HORTHENS and STARCHART Good
- PM 058 HORTHENS and STARCHART Good
- PM 059 HORTHENS and STARCHART Good
- PM 060 HORTHENS and STARCHART Good
- PM 061 HORTHENS and STARCHART Good
- PM 062 HORTHENS and STARCHART Good
- PM 063 HORTHENS and STARCHART Good
- PM 064 HORTHENS and STARCHART Good
- PM 065 HORTHENS and STARCHART Good
- PM 066 HORTHENS and STARCHART Good
- PM 067 HORTHENS and STARCHART Good
- PM 068 HORTHENS and STARCHART Good
- PM 069 HORTHENS and STARCHART Good
- PM 070 HORTHENS and STARCHART Good
- PM 071 HORTHENS and STARCHART Good
- PM 072 HORTHENS and STARCHART Good
- PM 073 HORTHENS and STARCHART Good
- PM 074 HORTHENS and STARCHART Good
- PM 075 HORTHENS and STARCHART Good
- PM 076 HORTHENS and STARCHART Good
- PM 077 HORTHENS and STARCHART Good
- PM 078 HORTHENS and STARCHART Good
- PM 079 HORTHENS and STARCHART Good
- PM 080 HORTHENS and STARCHART Good
- PM 081 HORTHENS and STARCHART Good
- PM 082 HORTHENS and STARCHART Good
- PM 083 HORTHENS and STARCHART Good
- PM 084 HORTHENS and STARCHART Good
- PM 085 HORTHENS and STARCHART Good
- PM 086 HORTHENS and STARCHART Good
- PM 087 HORTHENS and STARCHART Good
- PM 088 HORTHENS and STARCHART Good
- PM 089 HORTHENS and STARCHART Good
- PM 090 HORTHENS and STARCHART Good
- PM 091 HORTHENS and STARCHART Good
- PM 092 HORTHENS and STARCHART Good
- PM 093 HORTHENS and STARCHART Good
- PM 094 HORTHENS and STARCHART Good
- PM 095 HORTHENS and STARCHART Good
- PM 096 HORTHENS and STARCHART Good
- PM 097 HORTHENS and STARCHART Good
- PM 098 HORTHENS and STARCHART Good
- PM 099 HORTHENS and STARCHART Good
- PM 100 HORTHENS and STARCHART Good

BEGINNERS SECTION

New and confused? Not sure what PD is all about? Feel free to phone us (between office hours) and we will be pleased to guide you through your first PD order.

RECOMMENDED FIRST PURCHASE

- PU 011 SID File utility. Move, copy, edit, with look of the mouse
- PU 027 D COPY Disk copier and quick format. Saves WB hassles
- PU 030 TEXT ENGINE One of the best PD word processors
- PU 038 BUDDASE Database with good docs for beginners
- PU 121 21 GAMES A good start to anyone's games collection
- PU 700 TETRIS PRO Possibly the best ever Tetris game
- PU 024 GATORS GRAPHICS Info and help for the new user

Music Utilities

- PM 001 HORTHENS and STARCHART Good
- PM 002 HORTHENS and STARCHART Good
- PM 003 HORTHENS and STARCHART Good
- PM 004 HORTHENS and STARCHART Good
- PM 005 HORTHENS and STARCHART Good
- PM 006 HORTHENS and STARCHART Good
- PM 007 HORTHENS and STARCHART Good
- PM 008 HORTHENS and STARCHART Good
- PM 009 HORTHENS and STARCHART Good
- PM 010 HORTHENS and STARCHART Good
- PM 011 HORTHENS and STARCHART Good
- PM 012 HORTHENS and STARCHART Good
- PM 013 HORTHENS and STARCHART Good
- PM 014 HORTHENS and STARCHART Good
- PM 015 HORTHENS and STARCHART Good
- PM 016 HORTHENS and STARCHART Good
- PM 017 HORTHENS and STARCHART Good
- PM 018 HORTHENS and STARCHART Good
- PM 019 HORTHENS and STARCHART Good
- PM 020 HORTHENS and STARCHART Good
- PM 021 HORTHENS and STARCHART Good
- PM 022 HORTHENS and STARCHART Good
- PM 023 HORTHENS and STARCHART Good
- PM 024 HORTHENS and STARCHART Good
- PM 025 HORTHENS and STARCHART Good
- PM 026 HORTHENS and STARCHART Good
- PM 027 HORTHENS and STARCHART Good
- PM 028 HORTHENS and STARCHART Good
- PM 029 HORTHENS and STARCHART Good
- PM 030 HORTHENS and STARCHART Good
- PM 031 HORTHENS and STARCHART Good
- PM 032 HORTHENS and STARCHART Good
- PM 033 HORTHENS and STARCHART Good
- PM 034 HORTHENS and STARCHART Good
- PM 035 HORTHENS and STARCHART Good
- PM 036 HORTHENS and STARCHART Good
- PM 037 HORTHENS and STARCHART Good
- PM 038 HORTHENS and STARCHART Good
- PM 039 HORTHENS and STARCHART Good
- PM 040 HORTHENS and STARCHART Good
- PM 041 HORTHENS and STARCHART Good
- PM 042 HORTHENS and STARCHART Good
- PM 043 HORTHENS and STARCHART Good
- PM 044 HORTHENS and STARCHART Good
- PM 045 HORTHENS and STARCHART Good
- PM 046 HORTHENS and STARCHART Good
- PM 047 HORTHENS and STARCHART Good
- PM 048 HORTHENS and STARCHART Good
- PM 049 HORTHENS and STARCHART Good
- PM 050 HORTHENS and STARCHART Good
- PM 051 HORTHENS and STARCHART Good
- PM 052 HORTHENS and STARCHART Good
- PM 053 HORTHENS and STARCHART Good
- PM 054 HORTHENS and STARCHART Good
- PM 055 HORTHENS and STARCHART Good
- PM 056 HORTHENS and STARCHART Good
- PM 057 HORTHENS and STARCHART Good
- PM 058 HORTHENS and STARCHART Good
- PM 059 HORTHENS and STARCHART Good
- PM 060 HORTHENS and STARCHART Good
- PM 061 HORTHENS and STARCHART Good
- PM 062 HORTHENS and STARCHART Good
- PM 063 HORTHENS and STARCHART Good
- PM 064 HORTHENS and STARCHART Good
- PM 065 HORTHENS and STARCHART Good
- PM 066 HORTHENS and STARCHART Good
- PM 067 HORTHENS and STARCHART Good
- PM 068 HORTHENS and STARCHART Good
- PM 069 HORTHENS and STARCHART Good
- PM 070 HORTHENS and STARCHART Good
- PM 071 HORTHENS and STARCHART Good
- PM 072 HORTHENS and STARCHART Good
- PM 073 HORTHENS and STARCHART Good
- PM 074 HORTHENS and STARCHART Good
- PM 075 HORTHENS and STARCHART Good
- PM 076 HORTHENS and STARCHART Good
- PM 077 HORTHENS and STARCHART Good
- PM 078 HORTHENS and STARCHART Good
- PM 079 HORTHENS and STARCHART Good
- PM 080 HORTHENS and STARCHART Good
- PM 081 HORTHENS and STARCHART Good
- PM 082 HORTHENS and STARCHART Good
- PM 083 HORTHENS and STARCHART Good
- PM 084 HORTHENS and STARCHART Good
- PM 085 HORTHENS and STARCHART Good
- PM 086 HORTHENS and STARCHART Good
- PM 087 HORTHENS and STARCHART Good
- PM 088 HORTHENS and STARCHART Good
- PM 089 HORTHENS and STARCHART Good
- PM 090 HORTHENS and STARCHART Good
- PM 091 HORTHENS and STARCHART Good
- PM 092 HORTHENS and STARCHART Good
- PM 093 HORTHENS and STARCHART Good
- PM 094 HORTHENS and STARCHART Good
- PM 095 HORTHENS and STARCHART Good
- PM 096 HORTHENS and STARCHART Good
- PM 097 HORTHENS and STARCHART Good
- PM 098 HORTHENS and STARCHART Good
- PM 099 HORTHENS and STARCHART Good
- PM 100 HORTHENS and STARCHART Good

Games

- PU 001 HORTHENS and STARCHART Good
- PU 002 HORTHENS and STARCHART Good
- PU 003 HORTHENS and STARCHART Good
- PU 004 HORTHENS and STARCHART Good
- PU 005 HORTHENS and STARCHART Good
- PU 006 HORTHENS and STARCHART Good
- PU 007 HORTHENS and STARCHART Good
- PU 008 HORTHENS and STARCHART Good
- PU 009 HORTHENS and STARCHART Good
- PU 010 HORTHENS and STARCHART Good
- PU 011 HORTHENS and STARCHART Good
- PU 012 HORTHENS and STARCHART Good
- PU 013 HORTHENS and STARCHART Good
- PU 014 HORTHENS and STARCHART Good
- PU 015 HORTHENS and STARCHART Good
- PU 016 HORTHENS and STARCHART Good
- PU 017 HORTHENS and STARCHART Good
- PU 018 HORTHENS and STARCHART Good
- PU 019 HORTHENS and STARCHART Good
- PU 020 HORTHENS and STARCHART Good
- PU 021 HORTHENS and STARCHART Good
- PU 022 HORTHENS and STARCHART Good
- PU 023 HORTHENS and STARCHART Good
- PU 024 HORTHENS and STARCHART Good
- PU 025 HORTHENS and STARCHART Good
- PU 026 HORTHENS and STARCHART Good
- PU 027 HORTHENS and STARCHART Good
- PU 028 HORTHENS and STARCHART Good
- PU 029 HORTHENS and STARCHART Good
- PU 030 HORTHENS and STARCHART Good
- PU 031 HORTHENS and STARCHART Good
- PU 032 HORTHENS and STARCHART Good
- PU 033 HORTHENS and STARCHART Good
- PU 034 HORTHENS and STARCHART Good
- PU 035 HORTHENS and STARCHART Good
- PU 036 HORTHENS and STARCHART Good
- PU 037 HORTHENS and STARCHART Good
- PU 038 HORTHENS and STARCHART Good
- PU 039 HORTHENS and STARCHART Good
- PU 040 HORTHENS and STARCHART Good
- PU 041 HORTHENS and STARCHART Good
- PU 042 HORTHENS and STARCHART Good
- PU 043 HORTHENS and STARCHART Good
- PU 044 HORTHENS and STARCHART Good
- PU 045 HORTHENS and STARCHART Good
- PU 046 HORTHENS and STARCHART Good
- PU 047 HORTHENS and STARCHART Good
- PU 048 HORTHENS and STARCHART Good
- PU 049 HORTHENS and STARCHART Good
- PU 050 HORTHENS and STARCHART Good
- PU 051 HORTHENS and STARCHART Good
- PU 052 HORTHENS and STARCHART Good
- PU 053 HORTHENS and STARCHART Good
- PU 054 HORTHENS and STARCHART Good
- PU 055 HORTHENS and STARCHART Good
- PU 056 HORTHENS and STARCHART Good
- PU 057 HORTHENS and STARCHART Good
- PU 058 HORTHENS and STARCHART Good
- PU 059 HORTHENS and STARCHART Good
- PU 060 HORTHENS and STARCHART Good
- PU 061 HORTHENS and STARCHART Good
- PU 062 HORTHENS and STARCHART Good
- PU 063 HORTHENS and STARCHART Good
- PU 064 HORTHENS and STARCHART Good
- PU 065 HORTHENS and STARCHART Good
- PU 066 HORTHENS and STARCHART

PD SCENE

Public Domain offers a wealth of great programs at little more than the price of a disk. Tiny Horgan checks out the latest releases.

F1 RACER V2.0

game
Lunatics! This is a bit lousy, and no mistake. Until someone decides to convert *Virtua Racing* to the Amiga, this could be the closest you'll come to it without playing the real thing.

Well, it's not exactly a carbon copy of VR. To be honest, it's quite a way behind VR in terms of breath-taking scenery. But if you don't mind losing the canyons and suspension bridges, this should be right up your preface. On a 1200, it clocks up a sizzly smooth 60 frames per second for a good deal of the game. Even on a 500 it's pretty pacey. Like VR, you get a view from the cockpit that can be zoomed out as you hurtle round the track to reveal a couple of rear chase plane views. The cockpit view is the fastest, and you even get the driver's animal hands on the steering wheel for extra realism. There are also a couple more views – one that follows the car from the trackside, and another that looks back towards the car from the front.

There's a full gamut in there too, complete with practice laps, qualification and sprints. If that isn't enough, simulation fans can get their rocks off on all sorts of wing adjustment and gear ratio options. Alternatively mindless boy racers can drive the wrong way round the track and see how many opponents they can wipe out. I suppose this should finish with a Murray Walker joke, but I can't think of one right now. Sorry folks.

Available from: Essex Computer Systems,
118 Middle Crockerford, Venge,
Basildon, Essex, SS16 4JA.
Tel: 0266 553963. Price £3.50

90%



demo

I won't go into too much detail with this one, as it's another of the many good Jesus on Es-mugled demos without much new on offer (dised hardcore soundtrack with strobes and wobbly colour pal-tem). But it does have a nice user mode at the end. You select the effects with the function keys as the music plays in the background – more of this in future demos please!

Available from: Cynosotic PD, Office 01,
New Enterprise Centre, Little Heath Industrial
Estate, Old Church Road, Coventry, CV6
7NB. Tel: 0203 681987. Disk no. D0220.
Price: £2.

80%

TIME RUNNERS

game

Looking strangely commercial, *Time Runners* is a weird arcade adventure with some surprisingly good graphics for a PD game. Don't ask me what the plot is all about – let's just say it's something to do with space. Anyway, it's a combination of adventure-type conversations and so on, complete with nice full-screen graphics showing locations and characters, and arcade-style sections. I'd imagine this was originally intended for commercial release, as it's obviously had a lot more time spent on it than most PD games. Even so, it's not the most addictive arcade adventure I've played, but it passes the time better than a morning with Anne and Nick.

Available from: Cynosotic PD, Office 01,
New Enterprise Centre, Little Heath Industrial Estate, Old Church Road, Coventry, CV6 7NB.
Tel: 0203 681987.
Disk no. G0215.
Price: £2.

71%



HOLODECK

slideshow

Heard as a rival to the renowned ray tracer Tobias Richter, the man responsible for our November issue's *Frontier Elite II* cover, Mark Platt has compiled this two disk set of shiny Star Trek Next Generation space scenes. Tobias needn't worry though, as there's quite a bit of work to be done on these before they reach his standards. Star Trek The Next Generation is the theme, so you can expect pictures of all your favourite trekka spaceships. Some of the pictures suffer from a strangely distorted perspective, and the colour schemes are often overdone, but there are still some good pics on show for trekkers or trekkers.

Available from: Cynosotic PD, Office 01, New Enterprise Centre, Little Heath Industrial Estate, Old Church Road, Coventry, CV6 7NB.
Tel: 0203 681987. Disk nos.
P0072a-b. Price: £3.

78%



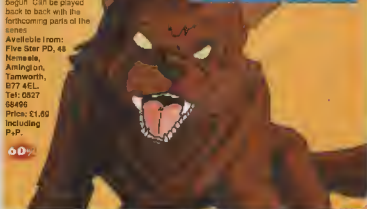
TROOP JUGERNORT PART 1

Interactive comic

Anyone remember Comics – that brilliant interactive comic game on the C64? Well, this isn't anywhere near as good, I'm afraid. It's basically a partially animated Manga-style comic, with a little beat 'em up section in the middle. This involves fighting off a pack of wolves for a few seconds. If you get through that alive, then you're shown the remainder of the comic. If there was more of it, this could be quite entertaining, but it's over before it's begun. Can be played back to back with the forthcoming parts of the series.

Available from:
Five Star PD, 48
Nemesa,
Amlington,
Tamworth,
B77 4EL.
Tel: 0827
68496
Price: £1.60
including
P+P.

60%



RINK A DINK

demo



Designer demos are Lemon's speciality. Rink a Dink is another of their typically slick productions, with a stream of excellent plasmas and zooms with loads of other wobbly bits. In between there's a good soundtrack too, with lots of good percussion and bass samples all mixed up in a housey kind of style. It's a shame that most of the objects are enclosed in small boxes rather than filling the whole screen, but other than that it's most desirable.

Available from: Cynolic PD, Office 01, New Enterprise Centre, Little Heath Industrial Estate, Old Church Road, Coventry, CV8 7NB. Tel: 0203 681087 Disk no. D0216. Price: £2 including P+P.

82%

BLACK DAWN

game

It's Dungeon Master in a spacey HDI. Okay, so it's not as deep as DM, but it's got the walking around a 3D maze bit – with monsters too! The gameplay is pretty straightforward and involves getting from one end of a maze to the other, collecting cash, and buying weapons along the way. Should you happen to meet a slimy green alien, you can splatter him across the walls with your current weapon, which could be anything from a knife to a rocket launcher. You don't get the fully animated 3D lecture maps of games like Legend of Kyrandia, but you can still keep track of the flick-screen 3D graphics with the help of the map. Nowhere near commercial standard, but not bad for PD.

Available from: Pathfinder PD, 41
Marion Street, Bingley, West
Yorkshire, BD16 4NG. Disk no. 1.
Price: £2 including P+P.

75%



DOCTOR WHO: THE 60s

multimedia

If you're the kind of person who likes to know Patrick Troughton's favourite breakfast cereal (and whether he likes sugar on it or not), then you'll jump at the chance to get stuck into this two-disk Dr Who trivia set.

It's a multimedia thing (as they say these days) which means that it's got text and graphics tied together with Hyperbook.

Unfortunately, it's a very simple affair, with reams of text accompanied by digitised mugshots of the characters and enemies. Part one concentrates on the William Hartnell era, while the second is devoted to the episodes with Patrick Troughton.

Available from: 17 Bill, 2/6 Market Street, Wakefield, West Yorkshire, WF1 1DH. Tel: 0924 365982. Disk nos. 2812a-b.
Price: £3.50 including P+P.

67%



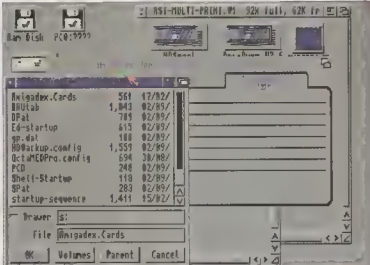
PD UTILITIES

If you're after cheap productivity software rather than games or demos, then Public Utilities is definitely worth checking out. Tony Horgan spots the bargains.

GUI ARC 1.10

point and click archivers

CLI-based archivers like LHA can be a pain to use, so it's a good job there are programs like this to make life easier. GUI ARC gets around the problem with a *SlidDirectory* Clou-style mouse operated interface. Your source and destination drives or discloses each have their own window. Archiving a set of files is just a matter of highlighting them with the mouse, and clicking the appropriate button. Extracting files is just as simple. Highly recommended to regular archivers. Available from: Computer and Design Services, Dept PD, 24 Blackmoor Croft, Tile Cross, Birmingham, B3 0PE. Tel: 021 779 6386. Price: £1.50 including P+P. **88%**



MULTIPRINT VOL 1

printer utilities

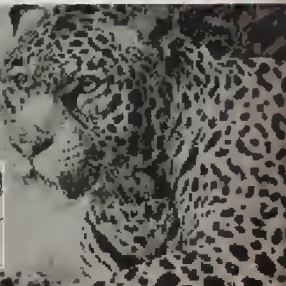
Printers eh, don't you just love 'em? If printers are your thing, then you'll doubtless go all gooey at the prospect of this latest Assassins compilation. It's a collection of loads of handy printer utilities covering all manner of things from font management to spooling to envelope printing. Some of the utilities need Workbench 2.04 or higher to run.

Available from: Roberta Smith DTP, 190 Felloden Way, Hempstead Garden Suburb, London, NW11 6JE. Tel: 081 455 1626. Disk no. BU116. Price: £1.40 including P+P. **80%**

X36 CLIPART

Now that scoundrels and dishonesters are more affordable, there's plenty of good clip art doing the PD rounds. This disk has some very useful logos and images that could find their way into all sorts of graphics, video and publishing jobs. As usual the quality is a bit lousy in places, but so long as you're not hoping to use the clips too large, these shouldn't be a problem. The list of clips include: animals, cars, wildlife, computers, banners, logos, logos, military, and loads of small American-style labels and trademarks. All of the clips are grayscale 16-bit images, with lots packed onto each screen. If image quality isn't too important, they're well worth a look.

Available from: Roberta Smith DTP, 190 Felloden Way, Hempstead Garden Suburb, London, NW11 6JE. Tel: 081 455 1626. Disk no. CU301. Price: £1.40 including P+P. **77%**



LSD LEGAL TOOLS 144/145

utility compilations

For anyone who spends a lot of time on the more technical aspects of the Amiga, LSD's regular Legal Tools compilations are a good source of obscure little utilities. Vol 144 has the follow goodies up its sleeve: *Des ModPlayer* (a Soundtracker module player), *Mungwait* (memory management), *Tru* (backup tool), *One* (system trim), *Palette Tool* (255/255/255 colour control), *Hard Guns Map Viewer*, *FBI* (asterisk loader operation), *LSDPlay* (module player), *MDSSum* (checksum generator), *IT-At Rest Pad* (disk tool), *OSnap* (test manager).

Store converts pass to more effect: *AFCopy* (directory utility), and *DMACon* (FBI tool).

Volume 145 tops that lot with *ASCII EOL2* (an ASCII converter), *Disksey* (disk salvager), *DUP* (disk upgrader), *Turbo Disk* (speeds up disk drives), *DED* (disk editor), *Bootman* (boot manager), *Muzi Ripper 3.0* (music module ripper), *Astra* (cassette package), *DMAT* (monitor), *APGraf* (graphics ripper), *CDROM* (CD ROM controller), *Select* (startup file), *Bootman Prots* (boot probs), *Quick Ret* (program return code). Volumes 144 and 145 are each contained on a separate disk.

Available from: Visage Computers, 18 Station Road, Ilkeston, Derbyshire. DE7 9LD. Tel: 0602 444501. Disk no. LSD 144/LSD 145.

Price: £1.50 each plus 50p P+P.



DISK MAGAZINES

Everyone's getting in on the disk mag thing these days. Here's a quick roundup of what's currently available.

TOTAL IRRELEVANCE

This is the official *OctaMED* user's disk mag. The interface has been written by Telo Kinnunen (the author of *OctaMED*), and is very neat and simple to use. Tutorials abound as you'd expect (the November issue includes a guide to sampling rates by Dave Sullivan and a MIDI for Beginners feature among others), and there are also a few *OctaMED* tunes in there too. Software and music reviews also justify for prominence among more general articles. If you're into *OctaMED* in a big way, there's a plenty to keep you happy here.

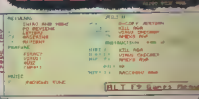
Available from: Computer and Design Services, Dept PD, 24 Blackmoor Croft, Tile Cross, Birmingham, B3 0PE. Tel: 021 779 1884. Price: £2.50 including P+P (2 disks).

60%

CHANNEL Z

The only AGA-specific disk mag to have appeared isn't the most attractively presented, but at least it is all geared towards the A1200 (with A4000 relevance too of course). This is a more varied disk mag than most, with a bit more to offer than reams of text. Issue 2 has a cute digitised racoon picture, the even cuter Workbench track called *Ameko* (given your Workbench a pet cat), *Virus Checker*, *Kill AGA*, *DCOPY 3.1*, a letters page, PD reviews, a handful of features and a general reviews section. Not bad at all.

CHANNEL Z



Available from: Magnetic Fields, PD Box 110, Preston, Lancashire, PR2 2AW. Tel: 0772 891190. Price: £1.00 including P+P.

79%

GRAPEVINE

Probably the longest standing diskmag of them all, *Grapevine* is very much a 'scene' mag. That's 'scene' as in the hacking/scene scene, so it gets into putting record-breaking numbers at babe on screen and then zooming them with a 50Hz 3D routine. This is the mag for you. Until recently it's been out on its own, but there are now a few other challenges for its own. Even if you don't care about coding, there are always hundreds (yes hundreds) of other features that have nothing to do with the Amiga at all.

Available from: Visage Computers, 18 Station Road, Ilkeston, Derbyshire, DE7 9LD. Tel: 0602 444501. Price: £3.50 including P+P.

85%

CYNOSTIC UTILITY COLLECTION 5

various utilities

For anyone into graphics and animation, this disk is well worth getting just for the Viewtek program that's included. This is a very simple, intelligent picture and animation viewer that's bound to come in handy all the time. The front end is nothing more than a file requester - but what a file requester it is! The program automatically detects whether the selected file is an animation, an LBM or a GIF or JPEG, and configures itself accordingly. It supports the AGA modes, and also has an ANIM7 animation converter (put them through this and they'll play back a lot faster).

Also on the disk is the text editor *EdWord* (the DMS file interrogation tool *DMS Toy*, and *TrackmeDex* for putting together music demos. Another handy compilation from Cynostic. Available from: Cynostic PD, Office 01, New Enterprise Centre, Little Heath Industrial Estate, Old Church Road, Coventry, CV5 7NB. Disk no. U0235. Price: £2 including P+P.

85%

COLOUR IT

kids paint

These kiddie paint packages are all the rage at the moment. *Colour It* is the latest to appear, and comes as a three-disk set. The program itself is very simple - it's the pictures that come with it that make it worthwhile. There aren't any of the normal drawing tools available, except for a flood fill function. This is all you need to use *Colour It*. Load up one of the pictures from the disk, and you can then colour it in by clicking in the blank areas with the mouse. The right button brings up the palette when you want to use a different colour.

All of the pictures are black and white outlines, scanned in from books and comics no doubt, so they're perfect for colouring in. Each disk has around 20 pictures each, and you can load and run any one of the three independently of the other two. Well, it kept me happy for a few minutes anyway. Available from: Computer and Design Services, Dept PD, 24 Blackmoor Croft, Tile Cross, Birmingham, B3 0PE. Tel: 021 779 6368. Price: £1.00 each plus 50p P+P.

74%



ART GALLERY

Rachael Whiteread eat your heart out. Here's the latest selection of art on the Amiga sent in by our readers.



SPIDERMAN

by Gylbe's Gert of Limburg, Belgium



Stephen Vice of Leicester created these hi res interlaced 256-colour images with Deluxe Paint 4 AGA

1 First of all, colour was added to the outlined central characters

2 A lot of work went into all of the characters, demonstrated in this step-by-step of the fish



4 The smooth background shading is thanks to the 256 colours coupled with the high resolution

3 Next up was King Neptune



5 Finally all the elements are passed together

EGVP

AMIGA 500 OWNERS POWER UP!

NEW

LOW

PRICES

SAVE UP TO £100

PC EMULATOR FOR USE WITH HD04+ OR A500



PC EMULATOR FOR USE WITH HD04+ OR A500

- For extra power and flexibility you can also use GVP's custom expansion slot (mini slot) to fit a GVP PC emulator. This compact circuit board turns your Amiga 500 into a fully featured PC compatible computer, capable of running thousands of PC software titles, including Windows and MS-DOS 1.1.
- 80286 16MHz processor
- Monitor 512mb of 15"
- Compatible with MS-DOS version 3.0 or later
- Windows 3.x compatible
- Includes 512K of FAST RAM
- Built in video adapter emulates VGA/EGA monitor and Hercules
- Good for optional 80287 co-processor
- Hard drive compatible
- Emulates support of Parallel and Serial ports, sound, realtime clock, CMOS RAM and extended memory

PC EMULATOR

£99
INC VAT EMU 0500

MORE STORAGE

HARD DRIVES + RAM EXPANSION

A GVP HD04+ Hard Drive will have an immediate effect on your Amiga. Where you used to constantly swap disks, wait for files and programs to load and sit around waiting for disk accesses, you will now be pushed to keep up with the speed of your Amiga. Hard drives are used for the same storage purposes as floppy disks, but can hold a great deal more information and access this data much more quickly. The A500 HD04+ (pictured above) provides the ultimate in hard drive performance. It can also increase the memory of your Amiga by up to 8mb, support up to six SCSI devices and provide PC compatible emulation via its custom expansion slot (mini slot) see left.

COMPARISON CHART

| FEATURES/MODEL | GVP HD04+ | 100 THERMALTA | COMMODORE A500 20MB | EVERHAM REFERENCE 120 |
|-------------------------------|-----------|---------------|---------------------|-----------------------|
| *TRANSFER RATE: KB per second | 1065 | 1028 | 564 | 400 |
| RAM EXPANSION | 8mb | 8mb | 2mb | 4mb |
| MINI SLOT FOR RAM EXPANSION | ✓ | ✓ | ✓ | ✓ |
| SCSI INTERFACE | ✓ | ✓ | ✓ | ✓ |
| GVP PERFORMANCE: FASTER ROM | ✓ | ✓ | ✓ | ✓ |
| DEDICATED POWER SUPPLY | ✓ | ✓ | ✓ | ✓ |
| PRICES FROM | £199 | £299 | £158 | £289 |

* Prices from Amiga Computers, October 1993

"the undisputed fastest Amiga hard drive available in the world"

Computer Mail April 19

"Without doubt the best hard drive available for the A500"

| PREVIOUS PRICE | NEW PRICE | INC VAT | HAR 0540 |
|----------------|-------------|---------|----------|
| £249 | £199 | | |

INC VAT HAR 0540

INC VAT HAR 0540

INC VAT HAR 0540

INC VAT HAR 0540

INC VAT HAR 0540

INC VAT HAR 0540

INC VAT HAR 0540

INC VAT HAR 0540

INC VAT HAR 0540

INC VAT HAR 0540

INC VAT HAR 0540

INC VAT HAR 0540

INC VAT HAR 0540

INC VAT HAR 0540

INC VAT HAR 0540

INC VAT HAR 0540

INC VAT HAR 0540

Power up your A500 with the very best in Amiga peripherals. Give your computer a new lease of life with a hard drive or accelerator plus hard drive from GVP.

These powerful, award-winning products plug neatly into your A500 or A500Plus, giving you more storage and more speed. The improvements don't stop there! In almost every area of Amiga operations these GVP peripherals can enhance the performance of your A500 or A500Plus. Both models can upgrade your Amiga's RAM, making operations run even faster. You can add a PC emulator, levelled below left, which enables you to run thousands of PC software titles. Further hard drives, backup systems and CD-ROM drives can also be added via the built-in SCSI interface. The list is endless. GVP's HD04+ and A500 are the undisputed premier Amiga peripherals available.

If you were thinking about upgrading to an A1200 or A4000, think again. With a GVP A500 Accelerator upgrade your A500 will be 14 times faster than a normal A500 almost nine times faster than an A1200 and over one and a half times faster than the mighty A4000 030 (see chart below).

AT NEW LOW PRICES!

PC SPEED

40MHz ACCELERATOR + HARD DRIVE + RAM EXPANSION

The GVP A500 is a unique combination of a Hard Drive, RAM upgrade and an Accelerator inside a full Motorola 68030c processor, running at 40MHz, making your A500 faster than you thought possible - almost nine times faster than an A1200. And, fitting a PGA multi-co-processor (40MHz 56882 ref: UPG 1922, £129 ex vat) can improve the slot further with some operations being 300 times faster than an A500. In addition you can add up to 8mb of 32-bit RAM, which further enhances performance.

FASTER THAN AN A1200 or A4000 030

An A500 with the GVP A500 hard will be considerably faster than either the A1200 or A4000. This is possible because the A500 uses a 40MHz 68030c processor whilst the A1200 uses the slower 14.19MHz 68020c processor and the A4000 030 uses the 25MHz 68030c processor.

- Features include:
 - 40MHz 68030c Processor (the A1200 has a slower 14.19MHz 68020c processor)
 - Up to 8mb of 32-bit Memory. Use of 32-bit Fitted
 - PLUS Same Features as HD04+
 - Mini-slot for Future Expansions, not PC Emulator, for left
 - CD Switch for Game Compatibility
 - Dedicated Power Supply and an Unlike Many Competitors
 - Factory Installed Hard Drive
 - High Speed Data SCSI Controller - Can Handle 7 Devices

1 Lead the A500 so much that I bought one! CU-Amiga October 92 91%

TEST RAM
GVP's A500 includes 2 20MB sockets for extra RAM. Upgrade to 8MB, 16MB or 32MB. The fastest currently available RAM (Simmons) is 2 x 4MB modules for £149.95. See also our 32MB RAM for £199.95.

See also our 32MB RAM for £199.95.

See also our 32MB RAM for £199.95.

See also our 32MB RAM for £199.95.

See also our 32MB RAM for £199.95.

See also our 32MB RAM for £199.95.

See also our 32MB RAM for £199.95.

See also our 32MB RAM for £199.95.

See also our 32MB RAM for £199.95.

See also our 32MB RAM for £199.95.

See also our 32MB RAM for £199.95.

See also our 32MB RAM for £199.95.

See also our 32MB RAM for £199.95.

See also our 32MB RAM for £199.95.

See also our 32MB RAM for £199.95.

See also our 32MB RAM for £199.95.

See also our 32MB RAM for £199.95.

See also our 32MB RAM for £199.95.

See also our 32MB RAM for £199.95.

See also our 32MB RAM for £199.95.

See also our 32MB RAM for £199.95.

See also our 32MB RAM for £199.95.

See also our 32MB RAM for £199.95.

See also our 32MB RAM for £199.95.

See also our 32MB RAM for £199.95.

ALL PRICES INCLUDE VAT - DELIVERY IS FREE OF CHARGE IN THE UK MAINLAND

SILICA - THE AMIGA SPECIALISTS

Amiga and Amiga+ are registered trademarks of Commodore International Inc. All other trademarks are the property of their respective owners. Silica is a registered trademark of Silica Systems Ltd. All other trademarks are the property of their respective owners.

At Silica we want you to have nothing to worry about. With our years of experience and expertise, we can help you find the right computer for your needs. We can help you find the right computer for your needs. We can help you find the right computer for your needs.

At Silica we want you to have nothing to worry about. With our years of experience and expertise, we can help you find the right computer for your needs. We can help you find the right computer for your needs. We can help you find the right computer for your needs.

At Silica we want you to have nothing to worry about. With our years of experience and expertise, we can help you find the right computer for your needs. We can help you find the right computer for your needs. We can help you find the right computer for your needs.

At Silica we want you to have nothing to worry about. With our years of experience and expertise, we can help you find the right computer for your needs. We can help you find the right computer for your needs. We can help you find the right computer for your needs.

At Silica we want you to have nothing to worry about. With our years of experience and expertise, we can help you find the right computer for your needs. We can help you find the right computer for your needs. We can help you find the right computer for your needs.

At Silica we want you to have nothing to worry about. With our years of experience and expertise, we can help you find the right computer for your needs. We can help you find the right computer for your needs. We can help you find the right computer for your needs.

At Silica we want you to have nothing to worry about. With our years of experience and expertise, we can help you find the right computer for your needs. We can help you find the right computer for your needs. We can help you find the right computer for your needs.

At Silica we want you to have nothing to worry about. With our years of experience and expertise, we can help you find the right computer for your needs. We can help you find the right computer for your needs. We can help you find the right computer for your needs.

At Silica we want you to have nothing to worry about. With our years of experience and expertise, we can help you find the right computer for your needs. We can help you find the right computer for your needs. We can help you find the right computer for your needs.

At Silica we want you to have nothing to worry about. With our years of experience and expertise, we can help you find the right computer for your needs. We can help you find the right computer for your needs. We can help you find the right computer for your needs.

At Silica we want you to have nothing to worry about. With our years of experience and expertise, we can help you find the right computer for your needs. We can help you find the right computer for your needs. We can help you find the right computer for your needs.

At Silica we want you to have nothing to worry about. With our years of experience and expertise, we can help you find the right computer for your needs. We can help you find the right computer for your needs. We can help you find the right computer for your needs.

At Silica we want you to have nothing to worry about. With our years of experience and expertise, we can help you find the right computer for your needs. We can help you find the right computer for your needs. We can help you find the right computer for your needs.

At Silica we want you to have nothing to worry about. With our years of experience and expertise, we can help you find the right computer for your needs. We can help you find the right computer for your needs. We can help you find the right computer for your needs.

At Silica we want you to have nothing to worry about. With our years of experience and expertise, we can help you find the right computer for your needs. We can help you find the right computer for your needs. We can help you find the right computer for your needs.

At Silica we want you to have nothing to worry about. With our years of experience and expertise, we can help you find the right computer for your needs. We can help you find the right computer for your needs. We can help you find the right computer for your needs.

At Silica we want you to have nothing to worry about. With our years of experience and expertise, we can help you find the right computer for your needs. We can help you find the right computer for your needs. We can help you find the right computer for your needs.

At Silica we want you to have nothing to worry about. With our years of experience and expertise, we can help you find the right computer for your needs. We can help you find the right computer for your needs. We can help you find the right computer for your needs.

At Silica we want you to have nothing to worry about. With our years of experience and expertise, we can help you find the right computer for your needs. We can help you find the right computer for your needs. We can help you find the right computer for your needs.

At Silica we want you to have nothing to worry about. With our years of experience and expertise, we can help you find the right computer for your needs. We can help you find the right computer for your needs. We can help you find the right computer for your needs.

SILICA

HOT LINE 081-309 1111

MAIL ORDER
1-4 The Mains, Hatherly, Silica, Kent, DA14 4JH
LONDON SHOP
1-4 The Mains, Hatherly, Silica, Kent, DA14 4JH
BIRMINGHAM SHOP
1-4 The Mains, Hatherly, Silica, Kent, DA14 4JH
ESSEX SHOP
1-4 The Mains, Hatherly, Silica, Kent, DA14 4JH
IPSWICH SHOP
1-4 The Mains, Hatherly, Silica, Kent, DA14 4JH

PLEASE SEND ME A GVP COLOUR BROCHURE

Name: _____

Company name (if applicable): _____

Address: _____

Postcode: _____

Tel (Home): _____ Tel (Work): _____

Which computer(s) if any do you own? _____

THAT BIT BETTER THAN THE REST



48,500 MEMBERS!!

GREAT PD GAMES!

- +2443 GAMES GALORE 10
 - +2448 GAMES GALORE 09
 - +2446 GAMES GALORE 08
 - +2447 GAMES GALORE 07
 - +2445 GAMES GALORE 06
 - +2444 GAMES GALORE 05
 - +2443 GAMES GALORE 04
 - +2442 GAMES GALORE 03
 - +2441 GAMES GALORE 02
 - +2440 GAMES GALORE 01
- All the Games Galore disks will now work fine on your AT/203 or 486/50. Each disk is packed with some superb PD games.
- +2433 OMC ATTACK
 - Nice Game. Kill The Orrible Orcs
 - +2430 PD FIRESTORM
 - 1st Level Only Playable Game
 - +2424 PROFESSIONAL SINGO
 - Ent. Luge 11 & Two Fat Ladies
 - +2413 D-SOLVE CROSSWORD
 - No Crossword Game With Solver
 - +2411 NEMESIS
 - Great Reveal/Ohlho Clonc
 - +2403 BEETLE
 - Provable Demo A Good Game
 - +2401 GNU CHESS
 - WLD 3.0 3.0 Only Chess Game
 - +2400 KLAWS THE KAT
 - Funny game, well cut
 - +2397 (8) KLONKONGE AGA
 - Superb AGA Card Game
 - +2391 MENTAL IMAGE '2
 - AGA Compatible Games Comp
 - +2390 MENTAL IMAGE '1
 - AGA Compatible Games Comp
 - +2388 ZYRADO
 - Real puzzle Games vs Puzzle
 - +2378 PATA MISSION II
 - Nice Shoot em. Up
 - +2375 ESCAPE FROM DOOM
 - Good RPD Type Game
 - +2373 (8) MR MEN OLYMPIC
 - Excellent Description Game
 - +2374 (AS) MYTHA INVADER
 - AGA Only Score Invader

AMIGA AMIGAS

- +2367 (AS) BROTHERHOOD
- Great Star Trek 3000
- +2366 (ABCD) HEADHONK MOBE
- Short but very nice refracted prismation art (as) (3) mag
- +2373 (8) ATTACK
- 1.5 MB Ann Schwartz Style
- +2374 3 WAYS TO STOP SMOG
- Sok. Bit Fun!
- +2374 (ABCD) LAST STANO
- Fantastic 3 mag ann A Must!
- +2484 CIRCUS ANIM
- Blaze Opert Ann (as) Bust etc.
- +2477 TO THE GREEN
- Swing gone. Doubletly swing
- +2462 WEB THERMIA ANIM
- Nice Weatherman spot ann
- +2430 ALAN AEROSOL
- Good Cartoon Animation
- +2421 SUNSETS
- Basic but nice Cray Collins artm

DEMO CD2

Another stunning compilation of new PD products. This one is even better than the first! Over 6000s of Disk 2. Get it now for £19.95 +75p P&P

CDPD VOLUME 3

Play more 7/81 to 7/82, ready to use from the CD! Also includes dozens of high quality 24 bit hi-res plus Hi-Res and AGA Hi-Res (as) (MUCH MORE) for only £19.95 +75p

THE 17 BIT COLLECTION

This double CD collection contains 1700 disks from our own library from disk 0001 to 2301. All the classics are included, as well as hundreds of great PD games, Demos, Music etc. Yours for Only £29.95 + £3.00 P&P

CDPD VOLUME 2

The continuation of the First! In single plus the entire SCOPE 8 (AM) ranges of disks too! Unbeatable value at £19.95 +75p P&P

DEMO DISKS

- +2359 SMOG JOURNAL
- Open Electronic Day
- +2358 AURAL KLUKONS JR
- Simple Manipulator
- +2353 BLACKBOX RQ
- Excellent Image Processor
- +2352 MAX 918 TON
- On-line Maps Etc. For Games
- +2348 POINT & FIRE
- 15 Colorful Plot Design for AMCS
- +2327 HOWLIS BROS COME 1
- Degrader. Numped art
- +2442 AMY PD REVIEW 8
- More Reviews From Cybernet
- +2439 MAX 918 TON
- Get The Most From Your Amiga without a sound sampler
- +2416 RAMP 918 TON
- Excellent HD Bit-map & Commander
- +2378 ASTRO 2D V3.5
- Updated Astronomy Program
- +2374 88 MUSI 1.02a
- Resizes Windows! After changing WB font size
- +2368 RUSH
- Good Head Drive Utility Disk
- +2365 MAOCC WORKBENCH
- Transform You WB. Superb
- +2364 OCTATUTOR
- Tuition For Osmosis
- +2363 AMIBASE PRO II V1.8
- Great Database Utility
- +2359 POWER LOGO V5.0
- Another Professional Language
- +2358 OCTAMED DEMO
- Demo of powerful Trezor
- +2347 MAGNUM CREATOR
- Make your own Databases
- +2342 TECHNIQUE V1.1
- A most Excellent Word Processor
- +2341 PARNET SETUP GUIDE
- How to get a Parnet Link
- +2335 EASYCIRC
- K5D 3.0 Samukhet. Excellent
- +2340 QWQRO V4.0 DEMO
- Demo of a very nice Test Ed
- +2339 DIGITS & DRESSER
- K5D 3.0 Only looks
- +2337 AD SPELL V2.01
- Good Spell checker
- +2336 ICONS PLUS '12
- Icons to use with your Disk
- +2335 ICONS PLUS '2
- More game of a type
- +2334 ICONS PLUS '1
- Even more Superb icons
- +2328 TELETRIT 2 (LO-RES)
- +2327 TELETRIT 2 (HI-RES)
- Voice Trile Characters
- +2326 TELESCROLL
- For Use With Video Trile
- +2325 SINGERSOFT UTILS
- Includes LingoScript Design
- +2320 GAME TAMER V4.38
- Latest Game Chemy & Solves
- +2317 MUSIC ENGINE
- Make your own Modules!

EDUCATIONAL

- +2316 PROBABILITY
- All about The Dark Room
- +2315 JUNIOR MATHS
- Great Maths Tutor for kids
- +2314 (AB) READ & LEARN
- The 3 Little Pigs With pictures Text & Narration
- +2313 (AS) THE ATOM
- The Discovery of The Atom
- +2312 HIGHWAY CODE
- AGU Questions On The Code
- +2311 BACK TO SCHOOL '12
- Compilation of Progs for kids
- +2310 BACK TO SCHOOL '12
- Compilation of Progs for kids
- +2309 STYLING ENGINE
- See How Art Engine works
- +2308 MATHS ADVENTURE
- Simple puzzle to continue game
- +2307 THE LITTLE TRAVELLER
- Info On Places world wide
- +2306 SINGALONG RHYMES
- Jack & Jill Etc
- +2305 WORLD GEOGRAPHY
- Good Educational Source

IMAGES 8FX

- +2822 IMAGE OBJECTS 1
- 30 Objects to use with Image8
- +2820 8FX SERIES '15
- +2819 8FX SERIES '14
- +2818 8FX SERIES '13
- +2817 8FX SERIES '12
- +2816 8FX SERIES '11
- 8FX For use in Games. Made By
- +2821 IMAGE OBJECTS
- More objects for Image8
- +2820 (AS) HOLDOCK
- Star Trek Archive primitive graphics
- +2805 IMAGE OBJECTS
- Even more objects
- +2804 IMAGE OBJECTS
- HO-Hum. More objects to render
- +2803 IMAGE OBJECTS
- Screen!
- +2802 IMAGE TEXTURE
- At 16 bit color change
- +2801 IMAGE TEXTURE
- To use more your objects
- +2800 IMAGE CLIPART
- Massive. B&W Icons. Objects
- +2799 88 BYLON 5 SLIDESHOW
- Plot from the Clute Show
- +2798 CAPIA SLIDESHOW II
- The 3rd in the plot series
- +2797 1 MAGG FACTORY SLIDES
- High quality Space slideshows
- +2796 88 BYLON PCS II
- Some More out slides

AGA DEMOS & PICS

- +2826 PANTHER DEMO
- Great AGA Demo
- +2825 BMD WARP
- Plasma Graphics 11 Team Hit
- +2824 (ABCD) AKIRA PICS
- Loads of the cult Jax Checks
- +2823 CHROMAGIC AGA
- Another AGA demo disk
- +2822 POINT OF SALE
- European new AGA demo
- +2821 NIGHTBREEZE 1 DEMO
- Another new AGA only prediction
- +2820 NIGHTBREEZE AGA
- Second disk in the series
- +2819 NIGHTBREEZE AGA 1
- Some classy AGA pics on here
- +2818 CYNOSTIC AGA SLIDES
- Yup you've guessed... more pics

20% FREE!

As a very special offer during January '94
We will give you 1 free disk of your choice with every 5 disks you order!
Best that for value!

NEW! 17 BIT II: THE CONTINUATION
Another superb CD of our best 17 PD Inklusions. Contains LOADS of Most Excellent Titles & Has a FULL Inclusive Bonus And De-Compression System Even Some Fun Files On The First 80 CD! Available Mid December £19.95 +75p P&P

NEW! IN MULTIMEDIA TOOLKIT
The CD contains all you need for your disk Multimedia Production! Thousands of digital images in colour and B&W even scalable art! Hundreds of Adobe, Postscript & C&D Fonts are also included! not to mention the 750 Modules & 2500 SFX.
only £19.95 +75p P&P

DEMO CD
Over 650 MEG of demos, clips, music, animations, games and utilities not to mention over 1000 modules! £19.95 +75p P&P

THE AMINET CD FROM THE U.S.A
Contains more games than your local Arcade Along With Thousands of Utilities, Demos, Pictures ETC!
£19.95 +75p P&P

GET AN UPDATE
Posted to your door every 6-8 weeks containing details of all the new PD releases & a free new utility for you to play with 1 Year Sub for £9.95 (UK) £19.95 (W)

AMFM 16 NOW AVAILABLE!
The Definitive Amiga/VID Music Disking 32.0 (Mag)
Ct £4.00 (Mag & Sample Disk)

30 OBJECTS & TEXTURES
7 Disks of Image8 Format 30 Objects & Textures. All Archived So there's loads shuffled on each disk! £19.00 Inc. P&P

FINAL FRONTIER 3
Calling all Star Trek Fans!
T.F.F. is a dedicated Trek mag on 4 packed disks. Includes exclusive artwork by Tobias Richard £8.95

ASSASSIN'S GAMES DISKS!
Easily the most popular games compilation around today. We now stock the entire range up to disk 125! (also around 500 games!) See disk prices below for single quantity prices

DONT FORGET!
We also stock new releases on Amiga! Check out the prices below on just what we have!
Hired game £25.95 Space Walk £28.95
Combat Art Plot £23.95 Qwerty VHS £19.95
FRONTIER £29.95
ALLEN BREEK 8 (8) AGI £29.95
ALLEN BREEK 1 £19.95

LSD LEGAL TOLDS COLLECTION
We now stock LSD disks up to number 140. These are an invaluable source for uncommon utilities. See below for disk price

ORDERING

BY PHONE
(0924) 366982
Access/VISA/
Switch / AMEX

BY FAX
(0924) 200943
Leave Order & Credit
Card details

BY POST
Please send Cheques/PO's To: 17 BIT SOFTWARE
1ST FLOOR OFFICES 28 MARKET STREET
WAKEFIELD
WEST YORKSHIRE WF1 1DH

DISK PRICES
1 10 Disks £1.50 Each
11-20 Disks £1.25 Each
21 Disks or more £1.00 Each
1 FREE WITH EVERY 10 YOU ORDER
B&W IS FOR RENT ORDER

CU AMIGA SPECIAL

Take advantage of these special offers. Not only are we offering some of the cheapest memory upgrade offers anywhere, we've also added a hand scanner tray and OCR software to the product range.

Welcome to our new look reader's offers pages. This month sees the launch of a new offer for special hand scanner tray and optical character recognition software. Also, we continue the memory upgrade range designed and built in the UK exclusively for CU AMIGA. Never before has upgrading been so affordable.

How can we be sooo cheap? Well, thanks to the huge success of these very offer pages and our exclusive deal with Go Direct we have control over the latest manufacturing technology to produce the upgrades — which means exceptional value for you.

So why upgrade your memory? Probably because memory upgrade is the most versatile enhancement you can make to your Amiga. Apart from the fact that you need it to run more powerful Amiga software there are many extra benefits too. You can use some of it as a RAM disk, just like a Superfast extra floppy drive. This means that you can avoid the cost of a second external floppy drive or hard disk.

There's even some software that, even though it claims to need a hard drive, will run from the configured RAM. A print spooler can save you time waiting for your printer to finish printing before you get on with your work and you can use your new RAM to do this instead of buying a more expensive printer or a costly buffer.

To get more from your Amiga you need at least 1Mb. To get the best you need as much RAM as you can buy.

TEN REASONS TO BUY FROM CU AMIGA

All the products offered by CU AMIGA have been carefully selected by us as being the best in their class. Not only quality does not mean top price. Thanks to our huge buying power we can deliver to our readers, the best products for the best prices.

- ◆ All memory boards are populated with memory
- ◆ All memory boards are individually tested
- ◆ Support from a top engineer is just a phone call away
- ◆ The price you see is the price you pay. Prices include VAT, postage and packing
- ◆ No minimum order and no credit card surcharges
- ◆ Memory upgrades carry an exceptional five-year warranty
- ◆ 28-day no-quibble money-back guarantee
- ◆ Go Direct are available until 8pm every day during the week
- ◆ They also operate a 24 hour order hotline
- ◆ Your credit or debit card will not be processed if the item you order is not in stock

A500+ upgrade to 1.5Mb
£15.99. A500+ upgrade to
2Mb - £22.99

FREE DISK

When you buy a memory upgrade from us, we will send you a free disk. To get the most out of your new memory upgrade.

NEW A1200 BOARD. CALL FOR PRICES

A600 upgrade to 2Mb - £24.99

A600 upgrade to 2Mb
with Disk - £29.99

SCAN AND DELIVER!

Do you have a hand scanner? Are you fed up with scanning? Our brand new scanner tray will improve your work. Simply place it over the image and clip the handle. The scanner tray is not available anywhere else. It will save all that wasted time correcting mistakes with our OCR software. It's a scan scanning pages that they're interested with saving mistakes. The package will not be out of their store before they see it.

OFFERS

MOUSE OFFER

A superb replacement mouse for just £9.99

The Amiga may be a great computer but the mouse that comes with it is a real pain in the arse. The CU Amiga mouse is a major improvement because it uses micro switches and has a button for the left button, making it much lighter and easier to click. Our mouse also has a much higher resolution - 250 dots per inch which means you need much less desk space and you get much finer control.

AM500 upgrade to 1Mb with Clock £17.99

AM500 upgrade to 1Mb £14.50

No price changes due to current memory shortages. These are today's prices available today!

FREE DELIVERY

**ORDER HOTLINE
CALL 0480 891171**

This number is open from Monday to Friday from 10am till 6pm and on Saturday from 10am till 5pm.

If you call outside these hours you can place an order by airtel phone, just give the information on the order form to the order department. You might find it easier to complete the form before calling so that you can read directly from it.

Please allow 20 days for delivery from when you place your order. For an exact date of goods please call 0480 891171 Monday to Friday between 10am and 6pm.

ORDER FORM

Order by telephone by calling 0480 8911 1 Mon. to Fri 10am to 6pm and Sat 10am to 6pm. There is an answering machine to take your orders at all other times. If you place your order on the machine then leave the exact details in the order they appear on this form.

- A500 upgrade to 1Mb £14.50
- A500 upgrade to 1Mb with Clock £17.99
- A500+ upgrade to 1.5Mb £15.99
- A500+ upgrade to 2Mb £22.99
- A600 upgrade to 2Mb £24.99
- A600 upgrade to 2Mb with Clock £34.99
- Scanner tray £54.99
- OCR software £99

NAME (if paying by cheque or credit card this should be the name as written on your cheque-book or credit card)

TELEPHONE NUMBER

VISA/ACCESS/SWITCH/CHEQUE/POSTAL ORDER (Delete as appropriate)

CARD NUMBER

IF SWITCH THEN QUOTE ISSUE NUMBER

VALID TO/EXPIRY DATE

SIGNATURE

DELIVERY ADDRESS

POST CODE

MAKE CHEQUES PAYABLE TO GO DIRECT AND SEND COMPLETED FORMS TO:

**CU AMIGA READERS OFFERS,
GO DIRECT, 7 VINEGAR HILL,
ALCONBURY WESTON,
HUNTINGDON, PE17 5JA.**

AMIGA Workshop



ISSUE 13 JANUARY

The Amiga really is a versatile computer you know. Honest it is! And to prove it here's a whole 32 pages dedicated to things you can do with it apart from playing games. We've got step-by-step guides, tutorials and walk-throughs to some of the most impressive Amiga programs available today. Our team of experts is on hand to help you get the most from your Amiga.



Cirio Rayner does a guest appearance in the final installment of our long running DPaint tutorial. Well, actually Cirio was not available, so we dressed Peter Lee up in a frock. Watch with wonder as he answers all the questions you've ever had about DPaint, tuttee.



Glant scrolling bitmaps need to be the sole preserve of experienced coders. These days are long gone (thank God) now that Acid Software's Blitz Basic 2 is on the scene. Jeth Jaen Holbörn as he shows you how.



You've had plenty of time to get in grips with last month's cover disk program Acids Animatrig. This program has as many advantages, that we are doing another tutorial on this program to help you even more. So, now is the time to really get those tweenties bopping with a little help from Peter Lee.



Pardon? Eh? What did you say? For thousands of people with hearing difficulties subtitles are a blessing. Jim Strutton demonstrates how to use AMOS to create your own for your home movies.



Pest. Do you wanna get your grubby hands on some free Amiga software? Well mate, if you've got a modem we can show you how. And what's more it's all kosher, up front and totally legal.



Feeling a little down in the dumps? Green around the gills? Maybe it's because your Amiga has got an infection. Doctor Kennedy diagnoses the symptoms and tells you how to take more care next time.

Regulars

182 QUESTIONS AND ANSWERS

Not one, but two technical experts at your disposal. Only Q&A AMIGA offers you such great value for money. Many questions receive the answers they deserve as Matt and John are released from their somewhat heavily-padded cells.

190 BACKCHAT

If you're one of the few that think we throw all the letters we receive in the bin, think again. Here's three pages worth of genuine reader's letters plus a few we made up. This month's font of wisdom is Tony Dillon.

194 POINTS OF VIEW

Why does an Amiga have a keyboard? It's merely a games machine? Why do disks take such a long time to load? Why didn't you get a console for Christmas? Well, John Kennedy explains why you're lucky to be an Amiga owner.



Programming languages don't come much better than Affix and Intendence Minimal: writers don't come more laid back than Jaen Holbörn. This month's episode combines the two to see what will result, and it's not a pretty sight.



Turn on, tune in and drop out with Tony Techno Morgan as he inspires here to push OctaMED beyond its design confines and into the flat above. Amiga's neighbours with loud and lasting dance music.

DPaint TUTORIAL

QUESTION & ANSWER MASTERCLASS

PART
12

For his final instalment in the year-long CU AMIGA project to help

you become a pro with *Deluxe Paint*, Peter Lee does his Claire Rayner bit to answer some of the questions which have beset Amiga artists since time began... Well, since the start of the year anyway, luvvies.

Q My animations aren't very long, but I keep getting messages from DPaint like 'insufficient memory'. What's the cause (I have a 1Mb A500 plus) and how can I solve it?

Robyn Broderick, Dublin.

A The glib solution is to throw money at the problem: if you can afford it, buy some extension RAM, which DPaint can use to store many more animation frames. The RAM will be useful for other applications too, so it would be a wise investment. The other solutions involve making the most of what you've got.

Here's a run-down of the things you should consider to free up more RAM for DPaint. Close down the Workbench screen if it's open. Do this by selecting the Workbench option from the preferences menu. Free any large brushes you may be holding in memory unawares - to do this simply click out a tiny brush and the old one is replaced. If you have a spare page, remove it since it takes up around 40K of precious RAM in low-resolution mode. Delete it by accessing the 'delete this page' option from the picture menu whilst in the spare page. Plan your animation beforehand, and stick to the number of frames you can complete it in. If memory is tight, never select the expanded way of storing frames from the method menu item. By sticking with 'compressed' you will be able to cram in more frames because DPaint stores only the differences between successive frames in this format. You should also avoid using stencils, which use memory, steer clear of pattern fills held in memory, and, once used, free any Anim brushes, which are held in memory too. This may sound restricting, but you have to maximise what you have. You can still use an Anim brush, of course - but remember to 'free' it after use. Likewise fill patterns and spare pages - a little pre-planning could be the only

answer you need. Finally, you can free up more memory right from the start of DPaint by specifying Swap in the startup requester. This allows DPaint to load in and then free sections of code as and when needed. If you accept the default (All) then the entire program loads into memory - which is quick, but memory intensive.

Q My animations play too slowly - they're really juddery. How can I give them, some pace?

Geraldine Broderick, North Hants.

A Another memory-shilling problem. The more complex your images, the harder your Amiga has to work to redraw the animation frames. The same rules apply as with lack of memory. Use objects with less detail - remember, once a brush is spinning or moving, there's not a lot of point having it full of subtle effects because these will be lost in the motion. Keep backgrounds simple if possible - use solid colours instead of gradient fills. If you have enough memory for your work, try using the method/expanded menu option, which stores each animation frame as a separate screen (around 40K each in low res), this will lead to a much smoother playback because DPaint won't have to recompress the image data before displaying each screen. Be warned, though, that the animation can take up vast amounts of disk space in this format.

Q I own DeluxePaint III and want to upgrade to version IV. Will all my old stuff work on the new version? I fancy all the effects you get with HAM painting, but don't want to re-do all that work!

Dermot Dennis, Menchester.

A The changes between the two programs are quite significant, but rest assured your images and animations will all load into DPaint IV. The changes which tend to confuse most upgraders are ranges and palettes. DPIV offers wider choices in these areas at the expense of complexity. As far as HAM painting goes, you're in for a treat, because you can load all your old images into HAM, and DPaint will convert them to the 4096 colour mode, so you will be able to achieve effects on your saved work which you never even thought were possible.

Q I'm confused over when to use background fix and when to create a stencil. Is there any difference between the two, and, if so, what's the best way to use them?

John Hoynes, Strrawbury

A Both background fix and stencil protect colours. But while you can protect selected colours from your palette in stencil creation, the background fix protects all screen colours. In stencil work you often find you need to add colours around an existing image - usually you may try to paint in a background when the foreground has been finished. By protecting all colours except the background, you can freely edit the screen, secure in the knowledge that you won't be painting over anything that's already there. Stencilling is a great safeguard, and allows you to work intuitively with





painting instead of being restricted by what images go behind what. The main use of background fixing is experimentation – you can draw to your heart's content without really altering a pixel on the fixed screen. This also means you cannot edit the fixed image in this mode, so, at some point, you will need to free the background to get on with the job in hand. Anything you added while it was fixed now becomes part of it. So, while you can't change what's fixed by painting over the image and adding edits, you can significantly alter what's on screen. And, if you make a mistake, just erase it, and the original fixed screen shows through. This technique is excellent for cell animation, where you need to see what's gone before in order to make changes to the next frame. DPaint has its light table effect for this, but DPaint users have found background fixing serves the purpose.

Q I want an object to disappear into the background during an animation, but no matter how small I make the distance, there's always something left on screen. How come?

Germy Rooney, Glesgow.

A It's always seemed strange to me too. You can minimise an ordinary brush manually (minus key)

until it's disappeared, but the 'animation move' facility isn't as bright. The only automatic way I know of doing this trick is to turn your brush edge on by rotating it using the X angle option for the last frame. But you, like me, may find it a lot easier just to erase the sucker after it has painted on the last screen.

Q I'm quite happy running DPaint III, but it's annoying to find that just when you want to tint something, the mode menu option isn't available – am I doing something wrong?

A A lot of people find this unnerving. They cut out a shape, and want to tint something with it. Unfortunately, DPaint III doesn't allow custom brushes to be used for tinting – you can only use the built-in brushes and tools. The way around this, if you need a specific shape to be tinted (maybe a shadow of a person or building), is to use the freehand fill option with tint enabled from the fill requester, and draw your outline. For built-in brush tinting, select the mode/tint menu item. Lucky DPaintIII users can activate effect/process/tint and place a custom brush on screen to achieve the same effect. NOTE: Tinting is dependent on your current

palette. If there aren't any suitable colours available (a range of various colours), DPaint's brilliant, but it can't work miracles.

Q I notice you and lots of other Amiga artists make use of real pictures in your work. How easy is it to do this myself, and what problems am I likely to face using them in my own images?

Paul McEvoy, Norway

A By real pictures I guess you mean digitised images. The Amiga is such a wonderful computer for storing and displaying beautiful images that there's a little wonder they are used so widely. Over the past few months I've used striking real-life pictures to illustrate points in an entertaining and memorable way (I hope). Some I've digitised myself; others I've downloaded from bulletin boards, and yet others have come from PD library disks. Let's quickly run through your options. To begin with I'd suggest getting suitable pictures from either shareware or public domain sources. There are many of these out there, and the disks sell cheaply because what's on there has been either donated by the author to the Amiga community (public domain), or offered on a trial basis to see if you want to buy it (shareware). I've let loose some of my artwork into the world and, as far as I'm concerned, people can do what they like with it.

Capturing your own images onto the computer is more complicated, requiring you to buy a digitiser. Once you've connected on to your machine, you then need either a video recorder or video camera from which to grab (or capture) the image. The digitising software is very clever and, depending on your cash outlet, you can buy colour or greyscale digitisers. Some digitisers can actually grab moving images (to be used in animations) while others require a few seconds exposure to digitise an image (which means if you're using a video recorder, it had better have a rock-solid pause function). Problems? With DPaint not many because whenever mode the digitiser grabs the screen in, you can almost bet that DPaint will be able to load it in for you to edit. Also, be careful not to infringe copyright. Just because you digitised a picture into your computer doesn't mean it's yours!

Q My DPaintIV disk came with something called coloured fonts, but they look funny when I try to use them. Is my computer display to blame? (I'm plugged into a portable TV until I can afford a proper monitor.)

George Elias Chouaboury, Paris

A No, you've just missed out a vital stage in accessing the fonts. To ensure DPaint can use the colour information in the font, you must first of all run a little program called ColorText, which you'll



DANCING IN THE SHADOWS

Simple shadows can be effective and they're easy to do. Using a

Freehand brush, draw a series of small circles (or a large back-

ground. You can do this in a single stroke, or by using the move requester.

the original brush. Either way, the effect is the same. The original

brushes are there and you can use them to create a shadow.

the original brush. Either way, the effect is the same. The original

brushes are there and you can use them to create a shadow.

the original brush. Either way, the effect is the same. The original

brushes are there and you can use them to create a shadow.

the original brush. Either way, the effect is the same. The original

brushes are there and you can use them to create a shadow.

the original brush. Either way, the effect is the same. The original

brushes are there and you can use them to create a shadow.

your original Anim brush. Didn't you? You now have a moving shadow, and you can load in your background, copy it to fill screen, then move your shadow through the frames of the animation. To complete the effect, all that's left to do is to load in your original brush, and with a position requester, offset from the shadow, place it down in the animation in exactly the same way as you did the first

Remember, if you're using the Move requester, keep the move requester disabled for both brushes, but create a new starting position for the shadow brush by stopping its starting position requester. This will ensure the shadow moves in the same direction as the original brush.

Remember to ensure your Anim brushes stop at the same time as the shadow brush. If it's not, it will look like the shadow is

ANALOGIC
ANALOGIC
ANALOGIC

Analogic Computers (UK) Ltd Telephone Mon-Fri 9am-6.30pm
Sat 9am-9.00pm
081-546 9575
Tel/Fax: 081-841 4671

COMPUTERS AND MONITORS REPAIRS WHILE-U-WAIT!!!

- * AMIGA A500/A600 and MONITOR REPAIRS WITHOUT DIAGNOSTIC FEES
- * FIXED CHARGES (A48D ONLY)
- * FAST TURNAROUND
- * MANY REPAIRS DONE WHILE-U-WAIT
- * WE PROVIDE PICK-UP SERVICE FOR REPAIRS FOR ONLY £5.00 + VAT
- * QUOTATION ON A600 AND MONITOR REPAIRS

£49.95
(A48D ONLY)
including NEXT DAY
DELIVERY by COURIER SERVICE

MONITORS

CM 2833 Wk II £19.95
SC 1435 199.95

PRINTERS

HP 510 299.95
HP 500 Colour 349.95
HP 550 Colour 549.95

FLOPPY DRIVES

1 MEG 3.5" A500 Internal £44.95
1 MEG 3.5" A600 Internal 44.95

ACCESSORIES

| | | | |
|----------------------|-------|--------------------------|-------|
| 512K RAM A500 | 19.95 | SUPER PRO ZIPSTICK | 14.95 |
| 512K RAM A500 + ... | 19.95 | 10 BRANDED BLANK DISKS | 9.95 |
| 1MEG RAM A500 + | 24.95 | 10 UNBRANDED BLANK DISKS | 5.95 |
| 1MEG RAM + Cock A600 | 34.95 | MODEM CABLE | 9.95 |
| AMIGA 400 DPI Mouse | 14.95 | PRINTER CABLE | 9.95 |
| SCART LEAD | 9.95 | A1900 RAM | POA |
| MOUSE MAT | 4.95 | ACCELERATORS | POA |
| DUST COVER | 4.95 | | |

CHIPS AND SPARES

| | | | |
|------------------------|-------|--------------------------|-------|
| KICKSTART ROM V1.3 | 19.95 | 8375 1 MEG FATTER AGNIUS | 94.95 |
| KICKSTART ROM V2.04 | 24.95 | 8375 2 MEG FATTER AGNIUS | 99.95 |
| KICKSTART ROM V2.05 | 24.95 | PAULA | 19.95 |
| ROM SHASER + V1.3 ROM | 34.95 | GABY | 9.95 |
| ROM SHASER + V2.04 ROM | 39.95 | CIA | 8.95 |
| ROM SHASER | 19.95 | 68000 | 14.95 |
| A500/A500 + Keyboard | 44.95 | AMIGA PSU | 19.95 |
| AMIGA PSU | 44.95 | 6570 KEYBOARD CHIP | 19.95 |

* All prices include VAT and **NEXT DAY DELIVERY** subject to availability * Fixed charge for repair does not include disk drive replacement nor keyboard
* All prices subject to change without notice * We reserve the right to refuse any Amiga repair

VISA

RENDALE GENLOCKS

Do you want to overlay Amiga graphics onto your video tapes?

If you want to do this, and more, you will need a genlock. Rendale genlocks are British designed and manufactured, and will give you a high quality output of the mixed image for recording.

Prices start from £139 – including VAT, and we offer a range of models to suit your requirements.

Please telephone or write to us for further information:

**COME TO RENDALE GENLOCKS,
COME TO THE BEST**

Marcam Ltd, 62 Tenter Road, Moulton Park,
Northampton NN3 1AX

TEL: 0604 790466 FAX: 0604 647403

AEGIS ANIMATOR

As a follow-up to last month's terrific cover disk program, *Aegis Animator*, Peter Lee explains more techniques to help you get the most out of this amazing piece of animation software.



Hopefully, you've been dabbling with Animator over the last few weeks, and getting to know how to tend your tweens and manage your morphs. Last month's Introduction gave an overview of how the program works, now it's time to progress with some hands-on expert techniques to really make Animator earn its keep.

TIMING

The timing of tweens (the individual segments which make up an animation) gives you wonderful control over every aspect of a sequence. We'll run through an example to show how timing can speed up or slow down events – or make them happen so fast they don't exist anymore!

An eye-catching effect is

to have objects appear gradually from nothingness — they are invisible to begin with, but they appear gradually as their colours move from dim to bright, emerging from howness. You control just how fast they emerge by using the time control panel, which, as well as letting you choose the speed of the entire animation, also lets you pick a speed for the particular tween (or event); you have just created

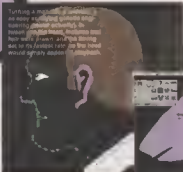
TIP: This effect works on bitmap images (i.e. those drawn in *Deixe Paint*) but is slightly more complicated. Once you've loaded in an image you have to check the RGB values of the colours used and make a note of them, so that when you black them out and ease them back in again during an animation, you can set

their values back to what they should be.

But let's work with a simple bitmap (*DPaint* image) outlined text. You need to have words or letters coloured differently so you can work on just one portion of the image at a time. Of course, if you want the whole text to appear gradually as one item, then use the same colour for the outline. In my example I've used four colours for the outline, and just one for the fill colour.

In tween one I loaded in the DPan1 picture as a background. Remember that for Aegis Animator to "see" images, they must have the correct extension, i.e. win for brushes, and pic for pictures. The picture in tween one was loaded in using its own palette, which meant you could see the text, but, as the point of this example is to have the words appear from nowhere, this has to be changed.

Clicking on the colour palette icon on the fast menu brings up the colour control



panel, and you can select a colour by clicking on it in the palette at the bottom of the requester. When you select the colours used in your image, then set them to black (RGB values to 00), the text disappears. If you were to play this twice now you'd still see the original image before it blacked out. The secret is to make the twice happen so fast that it becomes invisible. To do this go back to the last menu and select time. The requester shows two sliders: one, represents the time for the whole animation (global), and one [just for the current] tween (local). By clicking on the tween marker and dragging the slider to the right effectively making your two tween happen simultaneously – the image you loaded and blacked out never gets a chance to be shown, and the screen remains empty'.

Once done, you can click on the next tween icon (The camera – NOT the movie projector, which replays the animation/tween). It's now up to you so choose how long you want to give the image to appear. By using the colour requester again you can make individual colours fade in (or out) by altering either their RGB or hue, saturation or light values.

To make something appear suddenly (like a flash of white light), set the colour you need for the object then, from the *Level* menu, select the next tween. To make the colour appear gradually, say over a range of six dim greys before becoming white, you need to alter the colour gradually then click on next tween.

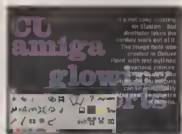
Each change in colour needs its own tween, and remember you can make this happen at your own speed by altering the local speed from the time requester. To make a flash (as in the case of our example with the solid colour inside the text outline) you simply have the colour switch from black to white in a short tween, then turn it back to black in the following tween.

MIXING IT

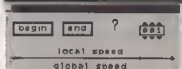
This rather Monty Python-esque example shows how to use `tween` one to set up an otherwise impossible animation: I used the famous Michelangelo image of Adam and decided to give him some clothes. But I wanted the clothing to appear and cover him, which raised the problem of getting the clothing the right shape to fit. The answer was to use the filled polygon tool (The little wedge icon in the last menu) and draw his suit and shirt in `tween` one.

Then I used the move function

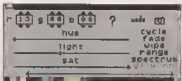
Left: After Animator works out the primer, the guy looks like this. All this in only two weeks.



Here is the palette control panel where you can edit colours. In this booth you're making every output on screen turn black, so the picture isn't too visible as the animation begins...

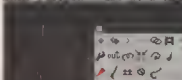


...and just to prove it, here's nothing! What is important is the time sequence, where you can specify the duration of a tween, or alter the speed of the whole animation. As the first tween here is to unroll, make the local speed slider have been pushed all the way to the right at it's set, making the original screen appear black right from the word go



On a tween by tween basis, the different colours of the text are brought into view slowly...

make oil on - dot at a time



Small, do you can see from the output palette, every pixel is made visible at the end of the animation

(The crooked hand) to place the various polygons which made up the clothing at various points around the screen edges.

Remember, we're still in tween one, so by setting the local speed to its highest value no-one gets to see the clothing being drawn, only their location after I've moved them.

By going to tween two now, I set paths for the individual objects. To do this, select path from the move pull-down menu, and click on the object you want to move. Now, by clicking as you draw a

ghosted line, you specify the route of the object. This works just as well for bitmaps as for Animator polygons. If the ending location is slightly out of position, just use the move hand to place it perfectly. You can have all objects move at once during a single tween, or move them over several tweens.

TIP: The path function is excellent for moving bitmaps about the screen, but... I could have used painted images of the clothes in this animation (drawn them in DPaint) over the Adam image), but with Animator you have to always be careful of using up too much memory. A Polygon object takes up much less memory than a bitmap image brush.

MORPHING

One of the really fascinating things about the program is its ability to morph objects – change them from one thing to another. Pre-animating a sequence, though, is vital, because Animator won't let you send objects behind others, or bring them forward. You have to visualise each object as drawn on a layer. If something's behind an object before you morph, then it still will be afterwards.

Our little morphing example shows a man being made in a box. The sequence involved drawing the face using the filled polygon tool, and editing it by using the loop tool (looks like a loop on a pen dial in the last menu). The eye (white polygon, blue circle) was added, and the eyebrow and ear drawn with the polygon tool. The hair was then added in the same way – and the first tween was completed, with the local speed set at the highest value to make the face appear as one.

Instead of using the loop tool to stretch out the face into the shape of an ear, I chose the hook tool. When morphing they do the same job of pulling and tugging at a shape, but the hook also

allows you to place in remove points from the polygon. To create a new point, just click on a line joining two points together. To remove one, drag it over an adjacent point. This way you get much more control over a polygon, and can adjust the number of points for the best appearance.

I did the same for the hair, turning it into a mane and adding a quiff as a new polygon. As for the ear, this was moved upwards using the hand, then morphed using the hook. All these effects were done in tween two, so when played back, the transformation happens

in one go, with the local speed set at a moderate level so you can actually see the face stretching (like the great effect in the film *The Howling*).

SHADOW BOXING

This effect is pretty tortuous in some ways like DPaint, but Animator strolls it. It's giving an object (in our case, text) a lengthening shadow to simulate a lowering light source.

The original picture was drawn in DPaint, using false colours. You can see that the main text has been overpainted six times with different shades of colour building up to the actual text. We shall be making all these colours invisible to start with by using Aegis Animator's colour control panel. In fact, we have to make the entire image invisible by turning all colours to the values of the background grey (R10,G10,B10). That is done in tween one, which – yes you've guessed it – has local speed set to the highest setting.

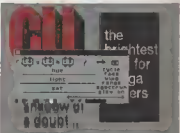
Now, on a tween by tween basis, the text itself is brought to view by editing its colour, then in turn the underlying shadows are made visible. On the occasion I used black to demonstrate the technique, but subtle shades of grey actually look better. Start with the shadow nearest the letter, and as you move on to the next tween, select the next colour.

TIP: When in the palette control panel you can click on screen to select a colour. This way you won't be guessing which colour in the range you should be working with.

If you do have to try hit-and-miss selection, remember, too, that you can undo an operation if you pick the wrong colour. The rest of the text was brought into view in a similar way, and gives a pretty special animation which, with most other packages, would be truly cumbersome. **CU**



This is the original screen used to create a shadow effect in Animator. It was created in DPaint and loaded into Animator where all the colours were turned to grey in tween one before the underlying colours were made visible in turn, over a series of separate tweens, to give the impression of a lengthening shadow.



And, as you can see from the screen and palette, the effect is quite marked. What you don't get from a still after the first is the smooth effect as the shadow 'grows' under the main letters, giving the impression that the text is emerging out of the background, or the illumination is being lowered.

OMEGA PROJECTS

(EUROPE) LTO
OMEGA HOUSE
83 RAILWAY ROAD
LEIGH, LANCs
WN7 4AO



0942 - 682203/4/5

FAX 0942 - 682206

SPECIALISTS IN HIGH TECH AMIGA HARDWARE FOR OVER 7 YEARS, OFFERING YOU THE BEST POST & AFTER SALES SERVICE THAT YOU CAN GET IN THIS FIELD. IF YOU ARE LOOKING FOR A PRODUCT THAT IS NOT ADVERTISED HERE THEN GIVE US A CALL AND FIND OUT JUST HOW GOOD WE ARE. WE ACCEPT PAYMENT BY MOST CREDIT CARDS AND DEBIT CARDS, CHEQUES, P.O.'s and we even accept CASH.

ALL PRICES ARE INCLUSIVE OF VAT

CSA 12 GAUGE

The only board available that gives the A1200 user TOTAL flexibility. Fits into trapdoor and offers a 50Mhz 68030 MMU, optional 50Mhz 68BB2 Ca-Pro, up to 32 megabytes of 32 bit ram, and SCSI 1 & 2 interface, yes SCSI as well as STANDARD.

With an Amiga Format verdict of 89% they said

"ADDS SOME SERIOUS POWER TO YOUR AMIGA 1200"

| | |
|-------------------------|---------|
| 12 GAUGE 0k / no FPU | £499.99 |
| 12 GAUGE 1meg / no FPU | £549.99 |
| 12 GAUGE 4 meg / no FPU | £699.99 |
| 12 GAUGE 8 meg / no FPU | £799.99 |

ADD £199.00 for 50Mhz Ca-Pro

BEWARE OF GREY IMPORTS. WE ARE CSA'S ONLY OFFICIAL UK DISTRIBUTOR. NOW BEING USED BY THE WORLDS LEADING PROGRAMMERS

CSA DERRINGER

CSA'S DERRINGER is the BEST 030

processor accelerator for the Amiga 600/500+/1500/2000. This board has a 25Mhz 68030 MMU clocked at 25Mhz, 25Mhz Ca-Pro, and the ability to add up to 32 meg of 32 bit memory using STANDARD simms. 50Mhz version ALSO AVAILABLE

| | |
|------------------|---------|
| DERRINGER + 1Meg | £349.99 |
| DERRINGER + 4Meg | £599.99 |
| DERRINGER + 8Meg | £699.99 |
| 25Mhz Ca-Pro add | £149.00 |
| 50Mhz Ca-Pro add | £199.00 |

BEWARE OF GREY IMPORTS. WE ARE CSA'S ONLY OFFICIAL UK DISTRIBUTOR

A1200

| | |
|------------------|---------|
| A1200 Standalone | £299.99 |
| A1200 + 20 MB | £379.99 |
| A1200 + 60 MB | £459.99 |
| A1200 + 85 MB | £519.99 |
| A1200 + 127 MB | £549.99 |
| A1200 + 205 MB | £629.99 |

A4000/030

| | |
|---------------|----------|
| A4000 + 80/2 | £ 949.99 |
| A4000 + 120/2 | £1049.99 |
| A4000 + 210/2 | £1159.99 |

Other configurations available
CALL FOR PRICES

LIMITED AVAILABILITY AT THESE PRICES

A4000/040

| | |
|---------------|----------|
| A4000 + 80/6 | £1899.99 |
| A4000 + 120/6 | £1999.99 |
| A4000 + 210/6 | £2099.99 |

Other configurations available
CALL FOR PRICES

LIMITED AVAILABILITY AT THESE PRICES

A500 HARD DISK

40 meg + upto 8 meg ram

199.99

80 meg + upto 8 meg ram

249.99

210 meg + upto 8 meg ram

399.99

MEMORY

| | |
|-----------------|----------|
| 8 meg SIMM · 32 | £299.99 |
| 4 meg SIMM · 32 | £199.99 |
| 1 meg SIMM · 32 | £ 79.99 |
| 1 meg SIMM · 8 | £ P.O.A. |
| 4 meg SIMM · 8 | £ P.O.A. |
| 4 meg SC ZIPS | £199.99 |

MULTI - FACE

2 EXTRA Serial ports &
2 EXTRA Parallel port
for AMIGA 1500

£179.99

Ideal for BBS

HARD DRIVES

AMIGA 600/1200 60 meg,
120 meg, 170 meg



ALL ABOVE DRIVES ARE TWO AND HALF INCH
AND INCLUDE CABLE AND SOFTWARE

WE ARE NOT JUST ANOTHER FACELESS MAIL ORDER COMPANY, IF YOU PREFER NOT TO SHOP BY MAIL ORDER THEN WE WELCOME YOU TO COME IN TO OUR SHOP PREMISES. REMEMBER WE ARE HERE TO HELP YOU.

SOUND ENHANCER PLUS

This product is DESIGNED & BUILT by ourselves and the past 2.5 years have seen thousands of units sold to very satisfied customers. We are so sure that YOU will be amazed at the difference the SOUND ENHANCER PLUS makes to the sound of your AMIGA that we are offering a NO QUIBBLE MONEY BACK GUARANTEE.

"THE DIFFERENCE IS LIKE OPENING A DOOR"

"SHOULD WIN A SOUND INNOVATION AWARD"

"THE EASIEST & MOST EFFECTIVE WAY TO IMPROVE YOUR AMIGA'S SOUND"

- A.U.I

- SHOPPER

- CU AMIGA

ONLY £39.99

What can you lose if you don't like it, your MONEY BACK

SOUND TRAP 3 KITS

The Sound Trap 3 Sampler as used by the PROFESSIONALS is now available in KIT form for ALL those ELECTRONIC/AMIGA enthusiasts. The KIT is VERY EASY to build so much that very little experience is required. So long as you can use a soldering iron you can build this project.

ONLY £19.99

AND if you can't get it going we offer a get you going service

BACK TO BASIC



Jason Holborn shows you how to create massive smooth scrolling bitmaps with Blitz Basic 2.

PART
2



Hardware scrolling works by progressively changing the position of the viewport origin so that new areas of a superbit map are exposed.

Welcome to the pages dedicated entirely to Acid Software's AMOS-bashing Blitz Basic 2, a BASIC programming language that can be used to create anything from high-speed arcade games, utilities and even serious software.

Last month, we started our look at the hidden powers of Blitz with a rundown of Blitz's powerful slice and bitmap commands. These two commands are very important as they allow you to open up hardware-level screens just like those used in professional games software.

So far, however, our bitmaps have been rather boring. Opening up a basic 320 by 256 pixel screen with 32 colours is all very well if you're writing nothing more than a paint program, but arcade games tend to be somewhat more demanding. Thankfully, Blitz Basic is more than a match for the job – not only can you create oversized 'super-bitmaps' and scroll them smoothly using the Amiga's hardware scrolling facilities, but you can also load standard IFF pictures into them beforehand. This comes in particularly useful if you're writing a game because, although gameplay is important, it's the quality of a game's graphics that really make them shine. So, you can design your game's background graphics in DPaint, and then put them into your Blitz program without a worry.

IFF SCREENS

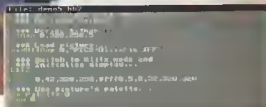
Loading graphics saved in IFF format in Blitz is more complicated than it is with AMOS. Whereas AMOS takes away virtually all the work of setting up the screen, initialising the screen's palette etc, Blitz isn't so user friendly. If you create a bitmap and a slice for your Blitz screen and then load in your IFF graphic, Blitz won't recognise the picture's palette and will revert to its own. This reason

for this is simple. All Blitz bitmaps that you create need to have an additional 'palette' object assigned to them that hold the screen's colour palette definitions. This isn't as complicated as it sounds, however, so you can stop biting your nails! First of all, load a picture into a Blitz bitmap, tell Blitz that you'd like it to hold on to the picture's colour palette by giving it the number of a palette 'object' that is to hold the palette information. Blitz automatically creates a palette object whenever one is needed, so there aren't any complicated memory allocations that need to be made.

The command to load a picture into a bitmap is – not surprisingly – 'LoadBitmap' and it has the following format: `LoadBitmap BITMAP, FILENAME, PALETTE BITMAP`. The `BITMAP` parameter is fairly obvious. In order to load a picture into a bitmap, you must have previously created a bitmap that will hold the picture. This parameter tells Blitz Basic the number of the bitmap that you wish to load the picture into. Take care, however, to make sure that the bitmap that you try to load the picture into is of the same depth as the picture – if you try to load a 32-colour picture into a 16-colour bitmap, for example, your program will crash.

The filename parameter is pretty obvious too. It tells Blitz Basic the name of the picture that you wish to load anywhere it can be found. Note that the picture must be in standard IFF format. The palette parameter is a number that tells Blitz Basic that you'd like it to store the palette information from the picture into a palette object. If you don't add this parameter, the picture's palette will be lost. Blitz Basic copies the picture's colour palette into a palette object and uses the number that you passed as the palette object's 'identification' number.

Blitz may be powerful, but AMOS still does offer a number of features that would have benefited Blitz greatly. One of these features is AMOS's ability to store pictures on permanent memory banks, therefore removing the need to hold all your game's graphics on disk in IFF format. This, unfortunately, makes them easy targets for hackers and crackers (as they may want to personalise your graphics with the names of their trumped-up cracking crews. Not only that, but it's down to the



With a little bit of clever coding, Blitz Basic can be used to create some fantastic scrolling effects.

programmer to make sure that background graphics are loaded into memory each time the game is run. Simply creating a slice to display your bitmap won't make the picture that you've loaded display on the screen using its own colour palette. Once you've created a slice for your bitmap, you need to tell Blitz that you'd like the slice to use the colour palette that you stored the picture's colour palette in when the picture was loaded with the 'LoadBitmap' command. This is very easy – all you have to do is to add the command 'Use Palette' to your program and the palette information from your picture will automatically be translated to the current slice. Here's a quick demonstration program that creates a 32-colour bitmap, loads in a 32-colour picture and then displays it using its correct colour palette – note that the filename I have used will have to be changed so that it points to a picture that you want to use.

```
*** IFF Picture load and display
demonstration)
*** By Jason Holborn;
*** Define a low resolution 32
colour bitmap...
Bitmap 0,320,256,5
*** Load picture into bitmap and
store palette;
*** into palette object
0...LoadBitmap
0,"PIC:BLITZ.PIC.IFF",0
*** Switch to Blitz mode and ini-
tialise slice...
BLITZ
Slice
0,42,320,256,5,FF7F,5,8,32,320,320;
*** Set palette to slice and turn
on display...
Use Palette 0
Show 0
NowWait
```

Once you've learned how to load pictures into a Blitz bitmap, it's fairly simple to create some very exciting scrolling effects with Blitz Basic. Blitz supports a number of scrolling techniques which break

down into what game programmers would call "hardware scrolling" and "software scrolling." The only real difference between these two techniques is that unlike hardware scrolling which is handled by specialized hardware built into the Amiga's custom chips, software scrolling is handled by Blitz itself using the Amiga's blitter chip. Software scrolling is undoubtedly far more flexible than hardware scrolling but it does have the disadvantage of being somewhat more complicated. Perhaps we'll return to the subject of software scrolling in a later issue.

HARDWARE SCROLLING

Hardware scrolling is a scrolling technique that uses the Amiga's built-in screen scrolling hardware. Yes, even without a programming language as powerful as Blitz Basic, the Amiga's hardware is more than capable of scrolling screens at unbelievable rates. Indeed, hardware scrolling is so fast that it's actually possible to scroll a screen faster than the Amiga's display hardware can redraw the display that you see on your Amiga monitor or TV.

Hardware scrolling does have its limitations, however. Because it can only scroll whole screens, it does tend to be rather memory intensive if you're writing an arcade game that used a scrolling background that continuously changed (Scramble, for example), the entire background would have to be held in memory as a massive bitmap. Even a fairly small bitmap consisting of twenty low resolution screens would eat up over 200K - and that's just for a 2-colour bitmap! A 32-colour bitmap would be over 1Mb! There are ways to get around this limitation, but it's down to you to write a more efficient routine.

To understand how hardware scrolling works, you need to know a little about what makes an Amiga display. As any hardware programmer will tell you, the Amiga's display is split into two components: a hardware display bitmap (the area that your programs draw into) and a software viewport (the slice). The slice is your 'window' on the bitmap that is held in the Amiga's memory. By creating a bitmap that is larger than the view port, you can create a fantastically smooth scrolling effects simply by changing the hardware viewport so that it displays a different section of the bitmap. The Amiga's bitmap is 840 by 256 pixels in size, for example. If you slice were 320 by 256 pixels, then only half of the bitmap could be displayed at any one time. To create hardware scrolling however, it is possible to change the origin of the slice so that all of the SuperBitmap can be viewed. This means you need the background to be scrolled continuously in one direction: programmers cheat by copying the position of the slice around the Bitmap so that when the scroll reaches the end, the end of the Bitmap's boundaries are the start, and vice versa so that the first part of the bitmap is displayed.

Hardware scrolling is one of *Bitz Basic's* most powerful facilities yet, considering its complexity it's surprisingly simple to incorporate a hardware scrolling screen into your own *Bitz* programs. Indeed, all that is required to get things moving (if you'll pardon the pun) is a slightly extended version of the *Show* command that we used to display a bitmap within a slice. If you know your *AMOS*, then you should feel instantly at home with this new version of the *Show* command as it works in virtually the same way as *AMOS* screen offset command. The extended version of the *Show* command is as follows:

Show BITMAP, X=MYBITMAP

The `bitmap` parameter holds the number of the bitmap that is to be displayed with the current slice. If, for example, you created a bitmap using an identification number of zero, then this value of zero must be passed to the `show` command in order for Biz2 to know which bitmap is to be displayed.

The X parameter holds the offset value (in pixels) of the top left-hand corner of the slice in relation to the left-hand edge of the bitmap. If, for example, you wanted to place the slice exactly 20 pixels left of the left hand edge of the bitmap, then you'd feed the show command a value of 20. By altering the value of this parameter in fixed steps, smooth horizontal scrolling is possible.

The `V` parameter holds the offset value (in pixels) of the top-left-hand corner of the slice in relation to the top of the bitmap. If, for example, you wanted to place the slice exactly 40 pixels down from the top of the screen, then you would need the show command's value 40. By altering the value of this parameter in fixed steps, smooth vertical scrolling is possible. Before we dive in and take a look at a demonstration program that allows how to put all the theory into action, it's worth noting that the parameter for your scroll to run at the correct speed, it needs to be synchronised with the redrawing of the screen using the `Blitz` `Wait` command. This is exactly the same as the `Wait` VBI command in `AMIGOS`. All it does is to force your program to halt execution until the next frame of the display has been sync'd. If you were to simply scroll your screen without the `Wait` command, the scroll would appear to go crazy. It's worth noting too that only a single `VWall` command must be performed for every loop of your program and even then it must not be called until every part of your game's main game area has been initialised. In other words, to achieve vertical scrolling as simple as it sounds, you need to call the `VWall` command in shapes (and objects), check for collisions etc. and then (and only then) call the `VWall` command.

HOW'S IT DONE THEN?

Let's take a look at an example program. Once again, it's down to you to create a background picture in *DPaint* that can be loaded into the 640 by 256 pixel bitmap that the program creates. The demonstration only uses a 16 colour colormap, so you should be able to create a suitable image regardless of whether you own an AGA machine. Once you've created your bitmap, save it out and substitute its filename for the filename that I've used in the *Source*.

```

; *** hardware scrolling
demonstration;
*** By Jason Holbert
; *** Create 320x256 alice and set
; *** its palette...
Alice
; *** Slice
; *** 42, 320, 256, 0FFFF, 4, 8, 16, 640, 640
; *** Use Palette 0
; *** Repeat
; *** Count from 0 to 319 in steps of 4
; *** From 0 to 319 Step 4
; *** *** Change screen offset value...
; *** show 0, x, 0
; *** *** Wait for vertical blank...
; *** Wait 4
; *** Set x
; *** *** Repeat until left mouse button
; *** is pressed
; *** Quit
Quit $ 0 0 0 0 0


```



Loading OFF graphics into your dBase program is easy.

a bitmap that will be used as our scroll area. The bitmap is 840 pixels across and 536 pixels down and four bitplanes in depth (giving a maximum of 16 colours). A picture with these exact same dimensions is then loaded into the bitmap from disk and the picture's palette is stored into palette object 0. Once this is done, the program then turns on Blitz Basic's BLT2 mode, allowing us to open screens at hardware level. A slice is then defined which will be used as our window on the bitmap. Note that the slice is only 320 by 256 pixels, effectively allowing it to display only half of the bitmap at any one time (the rest will be hidden). The last two parameters of the slice command tell Blitz how wide the bitmap that we're using is and the slice to display is - in this case, it's 840 pixels across. With the slice defined, the palette then is extracted from the picture that we loaded earlier and then transferred into the slice's palette so that the bitmap will be shown with the correct colour settings.

With all the setting up now complete, we can scroll the bitmap. Two loops are used — a **Repeat Until** loop and a **For...Next** loop. The first of these has been added so that the scroll will continuously scroll. The **For...Next** loop, however, controls the hardware scrolling mechanics. It counts from 0 to 319 in steps of 4. The values that it produces are sufficient enough for the entire bitmap to be displayed. It is worth noting that the **step** value defines the speed of the scroll — if you decrease it, the scroll will go slower and vice-versa. Inside the **For...Next** loop, the value produced by the loop is passed to the **Scroll** parameter of the **Show** command so that the horizontal offset of the slice relative to the bitmap is progressively changed. Each time the **show** command is called, this program is halted by the **Wait** command until the next iteration of the **For...Next** loop.

Finally, the program is terminated by checking the status of the left mouse button using the `joyb()` function. When you run this listing, however, the program will not halt until the scroll has completely run its course, so be patient. 

NEXT MONTH

We'll be taking our hardware scrolling one step further by taking a look at dual playfield screens, an important aspect of *Alice* Basic 2 that is used extensively in games software. So watch this space.



Designed to bring you high performance at affordable prices. Amitek peripherals offer outstanding value-for-money. They are also designed and built to ensure easy fitting, and trouble free operation, making them a pleasure to use. Amitek products are also thoroughly tested and are very reliable. So reliable that they are pleased to offer a full two year warranty on the full Amitek range.

AMITEK FRIENDLY TECHNOLOGY

AMIGA PERIPHERALS

FOR
A500, A600 & A1200



1Mb

EXTERNAL FLOPPY DRIVE

FOR ALL AMIGA COMPUTERS

- High quality 3^{1/2} Sony mechanism
- Formats to 800K
- AmiClick as standard
- Swappable hardware anti-virus technology
- On/off switch
- Through connector for extra drives
- Compatible with all Amigas
- Robust metal casing and anti-scratch design

- Power taken from Amiga - no external PSU

2 YEAR WARRANTY



AMITEK EXTERNAL DRIVE

£59
INC VAT DRI 1169



1Mb

INTERNAL FLOPPY DRIVE

FOR AMIGA 500/500PLUS

The Amitek replacement drive is ideal for users who wish to replace their existing bulky internal drive. Everything needed to fit the drive is included along with fully comprehensive instructions and 24 months replacement guarantee. The Amitek all features a high quality 3^{1/2} mechanism drive offering uncompromising performance at a fantastic price.

2 YEAR WARRANTY

AMITEK INTERNAL DRIVE

£49
INC VAT DRI 1169

PCMCIA CARDS

FOR AMIGA 800

For sheer ease of use, and flexibility you can't beat AMITEK'S PCMCIA RAM upgrades. These compact cards can insert upgrades and extra RAM PCMCIA port on your A500 or A1200, increasing the RAM by 50% or 100%.

£119 £179
INC VAT RAM 1172

RAM UPGRADES

FOR AMIGA 500/500

The following RAM upgrades are all upgrade cards and do not affect your Amiga's memory.

A500 - Low cost 512K upgrade with 64K buffer
£18 £23
INC VAT RAM 1172

A500plus - The A500plus has a battery backed clock built in to allow the RAM upgrades to not need this feature
£30
INC VAT RAM 1172

A600 - Low RAM increase with battery backed clock
£40
INC VAT RAM 1172



HAWK RAM UPGRADE & MATHS ACCELERATOR

FOR THE AMIGA 1200

Maximise the processing power of your standard A1200. Be ready for a new software which makes more demands on Amiga memory and technology. The Amitek Hawk RAM expansion includes up to 8Mb fast 32 bit RAM, the ability to support a sophisticated 68882 FPU and a battery backed up clock. Built to a high standard, this board can be easily installed and comes with a 2 year warranty. The Hawk RAM board is available in 8 pre-configured factory installed versions enabling you to select the model which best suits your requirements.



- Plugs straight into A1200 trap door - No soldering required
- Upgradeable FAST RAM board to 1, 2, 4 or 8Mb
- Uses industry standard SIMMs
- Sockets SIMM for easy RAM upgrades
- Three types of optional floating point unit

- 20Mhz, 33Mhz or 40Mhz PLCC 68882 co-processor
- Comprehensive easy to follow manual with illustrations
- Works with all A1200 and A1200HD computers
- Does not invalidate your A1200 warranty

PRICES FROM ONLY **£99**
INC VAT RAM 1172

MODULATOR

FOR ALL AMIGA

This modulator is recommended for users who wish to replace a heavy external modulator. Everything needed to supply the Amitek's peripheral is comes with an easy to follow manual.

- High quality design
- Full manual included
- FREE RF cable supplied

£29
INC VAT MOD 1172

HAWK RAM/ACCELERATOR OPTIONS

| | INC | 20MHz | 33MHz | 40MHz |
|---------|-------------|-------------|-------------|-------------|
| 1Mb RAM | £99 | £149 | — | — |
| 2Mb RAM | £129 | — | £199 | — |
| 4Mb RAM | £199 | — | — | £299 |
| 8Mb RAM | £399 | — | — | £499 |



THE SILICA SERVICE

Before we start, we should mention that we are not a computer company. We supply you with the best value for money service. We are not a computer company. We supply you with the best value for money service. We are not a computer company. We supply you with the best value for money service.

- FREE DELIVERY
- FREE STOCK RANGE
- FREE DELIVERY
- FREE STOCK RANGE
- FREE DELIVERY
- FREE STOCK RANGE

MAIL ORDER
To Silica Service, 1-4 The Mews, Haverley Rd, Silica, Kent, DA14 4EX
Tel: 081 309 1171

CRYSTON SHOP
Unit 1, 1-31 North End, Crayford, Surrey, CR8 1HG
Tel: 081 881 4444

LONDON SHOP
Unit 1, 1-31 North End, Crayford, Surrey, CR8 1HG
Tel: 081 881 4444

STECUP SHOP
Unit 1, 1-31 North End, Crayford, Surrey, CR8 1HG
Tel: 081 881 4444

ESSEX SHOP
Unit 1, 1-31 North End, Crayford, Surrey, CR8 1HG
Tel: 081 881 4444

SPRING SHOP
Unit 1, 1-31 North End, Crayford, Surrey, CR8 1HG
Tel: 081 881 4444

To Silica Service, 1-4 The Mews, Haverley Rd, Silica, Kent, DA14 4EX
Tel: 081 309 1171

PLEASE SEND A 54 PAGE AMIGA COLOUR CATALOGUE

Name/Name/Initials _____ Surname _____
Company Name (if applicable) _____
Address _____
Postcode _____
Tel (Home) _____ Tel (Work) _____
Which computer, if any, do you own? _____



HOT LINE 081-309 1111

VIDEO TITLING ON YOUR AMIGA

Messing about
with videos is
never going to
be easy, but
anyone armed

PART

7

with a copy of **AMOS** and possessing basic computer and graphics skills should be able to get a grip on video making in no time. Jim Strutton leads you through the sub-titling maze.

Using the Amiga along with video equipment is not a simple task, but with a little extra and applications most of us seem to have. Having got the basic computer skills, we not only find it interesting, but also expect to do a bit of useful programming on the Amiga in the process. It takes much effort, but using software is not too difficult.

AMOS was included on a recent coverdisk, a program should be available to all CU AMIGA readers. One point I would make though: it is really worth getting the manuals if you intend to go further.

So if you have a title program and the output of Deluxe Paint why would you need to use something like **AMOS** to create yet more graphics? Well, let me tell you how. I use it occasionally and maybe that will give you an idea. Well, I have had occasions where I have had to produce some videos for people with hearing difficulties. These needed to have sub-titles, make the dialogue clearer. Rather than a series of screens, I wrote a simple program that would take a list of the words and show them in a line below the bottom of the screen. This is important as it will be obvious to all body who had a hearing sub-titles. After you have edited the video, you have to take the speed write it down. You then take the words spoke and add them into a screen where you retain the original what was said, but make it shorter and clearer to read and understand. Some very clever people in broadcast can do this in real time as a program is running, but I am sure that they must have a lot of help and a lot of work from

The first program example given

AMOS VIDEO TITLES

in a simple text file and outputs the text two lines at a time. In use you would take the prepared script and then run the video through a GenLock to a copy that will have the sub-titles. As you play the video back, you listen to the sound and click the mouse to advance. The technique is to display the text just after the words are spoken, leaving the words on the screen long enough for them to be read easily.

In the end, it is a game you need to plan the timing, adding stops to give sufficient pauses to allow the words to be read. You can only really get good at this with practice. Apart from sub-titles, you could use GenLock software to show a single line caption at the bottom of the screen.

On a commercial level, the best program for sub-titles was extended for a sister company in France and is a system for creating karaoke video. The program was to create videos for the American market of children, but many myriads, using a different facility in France. For those who wish to remember going to the pictures on a Saturday night, there was always the sing-along where you had to follow the bouncing ball on the screen. The software existed to create

titles on a computer and wrote a system of AMOS commands to take the lyrics of a song and display them on the screen with an animated pointer moving along with the words. I published the software as it is a commercial product, but it is worth mentioning as something that can be created with software like AMOS.

Run Program to fill a screen with text and then fade it to a blank

Run Screen Jim Stratton AWPG 1993

Run Screen Opening and setting colour stuff

Screen Open 0,320,256,2,LORIS : Curs Off : Flash Off : Gt 0
Screen To Lock 0
Screen Open 1,320,256,2,LORIS : Curs Off : Flash Off : Gt 0
Colour 0,50 : Colour 1,5315

Run Write Text All over Screen from top left corner

Locate 0,0

For Y=1 To 50

Print "Amiga Video Productions Group";

Next Y

Run Pause so you can see the screen

Wait 50

Run Make Screen 0, which is the blank screen "Appear" over the top of
Run The screen with the text on it. The number "31" changes the type

Run Off transition effect you get. Try changing the number, and numbers

Run not divisible by five seem to work best.

Appear 0 To 1,37

FONT RUNNERS

I don't think will ever be able to write an article on fonts without mentioning that it is AMOS that is the only speedily way of it is important to programmers involved in understanding the differences.

There are two ways of getting text on the screen with AMOS. The first and simplest way uses the system fonts, i.e. the font used by Workbench for all text and would normally be Topaz, unless you have used a program like FastFont to change it. AMOS is able to take the default system font and alter it, often by taking the Point or Centre commands. The position the text is placed on the screen is set by text rows and columns. The width is the height of the default text font, while the colour is the default white, as you know. So the better fonts available for the Amiga are in sizes other than the default font. These fonts are known to AMOS as graphic fonts, and they have their own set of commands to position and render the text. Usually they have to be loaded from disk and generated a processed version, get a bit fraught. Once loaded, the position is defined in screen pixels and the font is rendered using the text command.

The example for sub-titles only uses the standard Amiga font and the simple commands to render the font. For some uses it would be more appropriate to use a larger font, rendered with an outline and drop shadow to make it stand out more. This is the technique used for the text on the Amiga's. I have also used the sub-title program and the karaoke software. Both of these programs end the source code can be bought from the AWPG

Normally they sell to professional organisations for £250, but for personal use GU AMIGA readers can obtain a full set for just £10 from the Amiga Video Productions Group, tel. 0753 870 667.

There are two other commands that use the video maker. First off there is a Scroll command. I have not used a scroll command for this article. The key to be aware of is that the text is scrolled at a time and that the font will be the same as the font is scrolled by the time the text is scrolled. The effect is quite simple, however, it is to simulate a text coming over a typewriter. If you use a computer screen you can get a very effective result. It can be a different way of showing credits on your latest holiday epic for instance.

Another useful trick AMOS can perform is to fade between two graphic screens. But rather than using the Fade command, which does the fade command to be (as appears) The effect works by loading two screens into AMOS, then using the Fade command to fade the first into the second. This can be a quicker solution than creating an animation to do the same job. For those of you with a simple GenLock with no fade facility, if you load a graphic of a blank screen, followed by a title screen, you can fade from the blank to the title and then back again to give the effect of that fades in then out.

STORE POINTS

Finally, you may remember that in the article on fonts, Camera, Action I mentioned making a rolling video program for use in a shop window as an interactive video display. The AMOS software even makes it possible for you to use the display hardware in AMOS and leave the program running out to video.

The main benefit is that rather than having to store the program, you can have the program on a floppy disk and then use the way of a video and let AMOS render them for you.

The next and most exciting option, is a video that is going to go into operation, using an Amiga full featured display system. The Amiga has been running on AMOS and it is a full featured display system for a travel company. 1280 is required in a secure housing. The Amiga is a video display system for a travel company that is locked out of the Amiga. They can use the screen and three coloured buttons. The Amiga is connected to the joystick port on the Amiga and the user can request information from the selecting options. It is a choice of three. For more information, a second version has a passive infrared detector, or PIR, which is similar in the operation to the devices used in security alarms. It is set off by the heat of somebody approaching. It is a choice of three. It happens a sequence and plays sound to attract attention.

All of this is very simple stuff using basic Amiga software, a kit, which just goes to show the world a new machine really.

Run simple text scroll program

Screen Open 0,320,256,2,LORIS : Curs Off : Flash Off : Gt 0
Colour 0,50 : Colour 1,5315

Locate 0,30

Centre "Welcome!"

Wait 50

For Y=1 To 31

Yscroll 3 : Wait 3

Next Y

Run Subtitle version 1.3

Two text lines in standard box, Jim Stratton 1993

Run Open a Lolita screen and set up some colours

Screen Open 1,320,256,16,0

Palette 50,5222,5555,5115,5333,5444,5555

Run This loads a data file which is composed of lines of dialog

Run Create the file with a text editor in plain characters

Run Call the file "Dialog.SUB" and put it on a disk to DFC:

Run Keep to about 30 letters per line and terminate each line

Run With "Ctrl M" plus <enter>. Leave two blank lines at the end

Run of the file

Dfs="DFC:"

FS="FS:" Then FS="DFC:Dialog.SUB"

Open 1,1,FS

Paper 0 : Gt : Curs Off : Hide

Run

Run This is the main Program loop

E=End(1) : If E=1 Then Gt

Repeat 4,1,5 : Input P,1,25

Wait Open 1,31,220,35,2

Pen 2 : Paper 1 : Curs Off : Cw

Centre 1,15

Colour

Centre 1,25

MOODING

Word Close

Loop

Run This is the routine to detect if the right mouse button has been

Run Clicked to move onto the next two lines

Program MOODING

Go

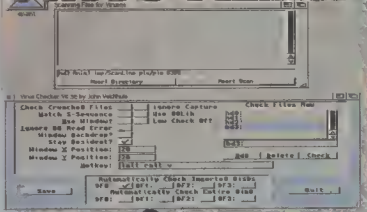
Mo-Mouse Click

If Mo=0 Then Exit

Loop

End Proc

VIRUS ALERT



Best to wrap your Amiga up tightly 'cos there are a lot of nasty viruses out there. John Kennedy explains how you can tell if you have a virus, what to do about it and how you can prevent it happening in the first place.

PART 3

Left: VirusCh is another excellent weapon against virus programs. Here an anti-looking bootblock has been detected and is about to be deleted.

WHAT CAN I DO TO PREVENT A VIRUS

1. **Always back-ups.** Back-up important data regularly. If disaster strikes, you may be able to reconstruct at least some of your work.
2. **Always write-protect floppy disks.** A virus cannot be written to a disk which has its Write Protect tabs set. Always protect commercial games and demos before use.

3. **Switch off.** Switch your computer off between games. A soft-reset will not clear the memory fully, and a resident virus may survive.

4. **Use a hardware protector.** You can get small gadgets which will inform you if the last sectors of a drive are being written to. Some floppy drives also have this feature built-in.

5. **Use anti-virus software.** Get hold of the latest anti-virus software and use it. Every time you load Workbench, start the virus software. On Workbench 2 and 3 machines this can be done by copying the software into the drive called 'MSStartup'. Workbench 1.5 machines will require an addition to the startup sequence in the S: directory.

6. **Don't use pirated software.** As pirated software comes from dubious sources, you will have no idea who has used it before you. It is possible that a virus has been attached, either intentionally or by accident. Always check archived files as well - a virus can be reactivated by any other program.

7. **Be careful when using PD software.** Before you use any PD software run your anti-virus program. This is especially true when files have been downloaded from a Bulletin Board System.

A virus is not a living organism - it is a computer program. If a system has been 'infected', the virus program is present somewhere in memory.

There are two goals for a virus program. The first is to copy itself to as many different systems, and the second is to perform some form of sabotage when they get there. If a virus is present in memory, it will attempt to copy itself to every disk which is inserted into the computer's floppy disk drive. It can do this in several ways, such as writing to the bootblock of the disk or attaching itself to another file (a link virus).

What a virus does when it is present in your system depends on which strain it is. Some virus programs are merely annoying and will display silly messages or turn your pointers into a rude shape. Others are more destructive and will destroy all the data stored on any disk inserted by overwriting it with garbage. Both floppy and hard drives are susceptible to damage in this way.

WHAT ARE THE SYMPTOMS?

The symptoms of viruses are as follows: inexplicable crashes from once reliable programs, strange messages (usually profane) or

VirusChaser is an excellent virus killer. Some like to use it before releasing so be sure to get yours from a reliable source.

SAFE HEX INTERNATIONAL

Safe Hex International is a new UK virus centre now open and they will be happy to supply you with the very latest anti-virus software. A disk of the latest killers costs just £2, and for details you should contact: **SHI Regional Virus Centre UK, 304 Leeds Road, Ecdeshill, Bradford, West Yorkshire, BD7 3LQ.**

graphic, loss or corruption of files and commercial games will no longer boot.

WHAT TO DO IF I HAVE ONE?

The first thing to do is to get rid of it! There are many programs in the Public Domain which will search out and destroy virus programs. GU AMIGA always tries to fill any empty space on the cover disks with a good program. The anti-virus software will search through memory and remove any resident programs. If you insert your disks it will then examine them for damage and other copies of the virus program. Hard drives should also be checked, as a virus could lurk away for weeks in an obscure corner of a large hard drive. When the anti-virus software finds something suspicious, it will ask you if you wish to re-write the bootblock or boot sectors. Be careful! If the disk in question is a normal AmigaDOS disk then go ahead with the operation. However, if the disk is a commercial game or a demo read the next bit first.

Most games and many demos put their own special programs in the boot block of a disk, and if the prevention program is provided a pretty soon as soon as the disk is inserted. The anti-virus software has no way of knowing if the boot block contains a virus, or such a program. If a game or demo boots normally, it is reasonably safe to assume that it is free from viral infection. To be absolutely sure you may want to use a special program which can make a copy of the bootblock and save it as a file. You can then safely overwrite the existing data, and if the game/demo fails to boot you need only copy the back-up data back to the disk. If the program does boot you can probably assume the bootblock you copied contained a virus. If a commercial game has been destroyed, get in touch with the publisher. They usually offer a replacement service for a small fee. So, now you know all there is to know about viruses: check out how to prevent them in the box out and you should be safe from all harm.



JARGON BUSTERS

BOOTBLOCK: The first few tracks of a floppy disk contain important information for the Amiga's operating system. It is possible to write a small program to fit into these tracks, and although displaying a picture is one possibility, a virus is another.

VIRUS: A program which will attempt to copy itself to other disks, and then damage the data stored there.

Another great offer from a manufacturer you can trust

DISK DRIVE £49.95*
CAX 354



**Price includes VAT and delivery*

- High quality
- Renowned and proven reliability
- Styled plastic case
- Low power consumption
- Throughport facility for addition of further drives
- Suits any Amiga

Order with Confidence

- ✓ All Cumana products carry our 30 day money back guarantee
- ✓ All products carry our 12 month warranty
- ✓ All inclusive price

| | |
|--|---------------------------------|
| NAME _____ | ADDRESS _____ |
| POSTCODE _____ | TELEPHONE NO. _____ |
| I would like to order CAX354 Disk Drive(s) at £49.95 each | |
| Please debit my ACCESS/VISA card (please delete): | |
| Number _____ | Expiry date of card ____ / ____ |
| Signature _____ | |
| Cheques should be made payable to Cumana Limited. Orders may be placed by telephone - 0483 503121, or by fax - 0483 451371, or sent to - Cumana CAX 354 Offer, Pines Trading Estate, Broad Street, Guildford, Surrey GU3 3BH. | |

Cumana reserve the right to increase the price at any time. This offer is subject to availability.



**Manufacturers of
quality products
since 1979**

AMIGA **NEW!** AMIGA 1200 PACKS
AMIGA CD³² CONSOLE
FROM SILICA - THE UK'S No1 AMIGA SPECIALISTS

Chaos
PACK

First, download the DVD, which gives you help with things from which our adventure teams will give you lots of great FREE DATA. The game includes the new Chaos Pack, D&D Basic and Phoenix Island (the new D2006). Check the prizes list first so you can select gifts you want with things from the pack. CHAOS is the adventure pack of the year and is an Award-Winning Game. It includes Chaos Engine, New Year's Groundwork, Gift Symptom, and other prizes.

ALL YOUR CHAOS have been rated over 90% and are the coolest Adventure Game.

BOLD AWARD

| | |
|---|-----------------|
| CHAOS ENGINE | \$25.95 |
| EVNO CARE | \$34.95 |
| FINBALL TANTALUS | \$29.95 |
| PACK FALDO, CHAMPIONSHIP GOLF | \$34.95 |
| CHAOS PACK \$125.95 | |
| MSFA BASIC V3 | \$50.00 |
| PHOTON PAIR | \$89.95 |
| Possible data Programming Language | |
| Possible Desktop Printing Package | |
| TOTAL VALUE: | \$265.91 |

WORTH OVER £200

AMIGA 1200 PACKS + HARD DRIVE
OPTIONS
RACE 'N' CHASE DESKTOP DYNAMITE

| | |
|---|---|
| <p>NEW!</p> <p>4 YEAR OR 50,000 MILE WARRANTY On All Toyota Models*</p> <p>FREE DELIVERY</p> <p>Price: \$13,750 Sales Tax: \$750 Trade In: \$1,000</p> <p>2-0-0 \$299</p> | <p>NEW!</p> <p>4 YEAR OR 50,000 MILE WARRANTY On All Toyota Models*</p> <p>FREE DELIVERY</p> <p>Price: \$13,750 Sales Tax: \$750 Trade In: \$1,000</p> <p>2-0-0 \$299</p> |
|---|---|

| | |
|--|--|
| 2 nd 64 th £449 | 2 nd 64 th £499 |
| 2 nd 85 th £499 | 2 nd 85 th £549 |
| 2 nd 127 th £529 | 2 nd 127 th £579 |
| 2 nd 209 th £599 | 2 nd 209 th £649 |

[illegible]

SILICA - THE AMIGA SPECIALISTS

INSIDE AREXX

PART
2



Jason Holborn takes you gently by the hand through your first AREXX program.

If you were lucky enough to have found an Amiga crammed into your Christmas stocking, then you're probably starting to wonder why Commodore didn't include a programming language with your new machine. Well, the truth is that they did—it's just that it's not that easy to find. If you were with us last month (and if you weren't, why not?), then you'll already know that hidden away on your Workbench disk is AREXX, a powerful script-based programming language that can do everything that traditional languages like Basic and Pascal can do, plus a whole lot more besides.

Last month we started our look at AREXX by discussing what AREXX actually is and what it's capable of. If you missed that issue, I'm sure our illustrious editor won't mind me mentioning that back issues are still available. In the meantime, however let's take our AREXX tutorial one step further into uncharted territory—we're going to write our first AREXX program. Don't worry, AREXX isn't as complicated as it may first seem. Providing you have a fairly basic grasp of AmigaDOS then you're already well on your way!

BY THE NUMBER

Before we take that all-important first step, however, now is as good a time as any to introduce the concept of AREXX variables. If you've ever had any experience of programming languages before, then chances are that you've already encountered this fundamental aspect of all programming languages. For the beginners amongst you, a variable is essentially a method of temporarily storing discrete items of information within the memory of your Amiga. Under normal circumstances you'd have to know exactly where in the Amiga's memory the data has been stored. But variables take this hassle away from you by allowing you to create pigeon holes in the Amiga's memory which can be referred to using labels that you designate yourself. You could for

example, create a variable called AMIGA or even WOBBLY if you so wish.

Variables can handle just about any type of data ranging from a single character, an integer, a floating point number or even a string of letters. Unlike other programming languages, however, AREXX variables are what are known as 'typeless'. That is, once a variable has been defined to hold one particular type of data, it isn't restricted to just that type of data. Say, for example, you created a variable called FRED that was initially used to hold a number. Just because it started life as a number variable, that doesn't mean that it will only hold numbers—you could quite easily transfer a string of characters to it without AREXX balking an eyelid. Obviously you can't then perform a mathematical operation on it, but that's about the only restriction that AREXX places. Even then, AREXX will happily treat a string variable containing '12' as both a string and a number. Clever eh!

GET PROGRAMMING

Anyway, now we've got that out of the way, let's get stuck into our first AREXX program. If you haven't already done so, you'll need to install AREXX by loading up Workbench and then double-clicking on the RexxMaster drawer that you'll find in the System drawer on your Workbench disk. If you intend doing a lot of AREXX coding then it may be worth permanently

AREXX UNDER CONTROL

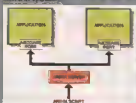
ALL AMIGA isn't the sort of magazine that boxes advanced readers with months of tedious lessons for beginners. Starting this month, we'll be launching a separate section within the AREXX column aimed at those of you who have mastered the basics and want to know how to put all this theory into practice.

Every month we'll be taking a look at how AREXX can be used to automate the operations of several popular AREXX-compatible applications. If you'd like to make any suggestions about which programs should receive the AREXX treatment, then write in.

Before we dive it of the deep end, however, it's worth taking time to discuss exactly how AREXX communicates with other applications. Task communication is an integral part of the Amiga's advanced message-passing operating system Eas, and AREXX builds upon this system to allow any application that's AREXX compatible to send and receive commands to and from other applications that are currently running.

The best way to envisage how this works is to think of a telephone network. Homes that have a telephone line are connected together through a central exchange that's responsible for making the connections between two lines. In the case of the Amiga, it's AREXX that acts as the telephone exchange, with each application having its own phone line (or, in AREXX terms, its 'message port'). Just like a telephone network, each message port has its own unique name that is used to distinguish it from any other message ports. ASD's Art Department Professional, for example, has a message port called ADPro, and even AmigaDOS has its own port called Command.

When your AREXX script attempts to communicate with an external program like ADPro, AREXX must first attempt to establish a communication link with the application. If the attempt is unsuccessful, chances are that the program has not been loaded in, or on the other hand, the attempt was successful, your script is then free to communicate with that application. From here on you can call the internal AREXX functions built in to that program to control its operations.

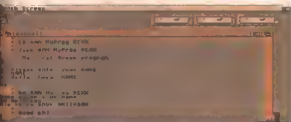


External applications can be instructed directly by AREXX by sending a command to the application's message port.

Very few AREXX ports have the same name as the applications they are attached to. You should find the AREXX port name for the application that you'd like to control in the program's manual, but AREXX does provide a very handy facility that will allow you to automatically display the names of all AREXX message ports currently available. It's worth noting, however, that the program must be running in order for AREXX to find its message port. Give this listing a try: "/ Message Port Finder" / Say "Message ports..." / Say ShowPorts Exit



Before you can write an AREXX program, you need to make sure that AREXX is up and running by double-clicking on the RexxMaster icon.



If you type in the AREXX listing this is what you should see. Not even inspiring, but a working AREXX program nonetheless.

Installing this program so that AREXX is automatically loaded whenever Workbench is loaded. Don't worry, this isn't as complicated as it sounds — simply drag the RexxMast icon across from the System drawer and drop it into the WBSStartUp drawer.

When you double click on the RexxMast icon, a window should momentarily pop up onto the Workbench screen, informing you that AREXX has been successfully installed. If everything checked out okay, double click on the Shell icon and drop down into AmigaDOS. Most programming languages these days have their own editors which you use to write programs, but AREXX is somewhat different.

Instead you'll need to write all your AREXX programs using a text editor. Thankfully, there's also one on your Workbench disk, so absolutely no need to hunt for any here either! So without further ado, enter the following command at the Shell prompt.

Ed RAM:Myprog.Rexx
After a couple of seconds disk access, the Workbench Ed text editor should spring to life before your very eyes. Ed works in a very similar manner to a conventional word processor (minus the fancy page layout looks, of course), so you shouldn't have too many problems getting to grips with it. If in doubt, refer to the Workbench manual that came with your Amiga for a more in-depth explanation of how Ed works.

Anyway, let's get down to some serious coding — warm up those typing fingers by entering the following AREXX program.

My First AREXX Program

(line space)

Say /Please enter your name

Pull NAME

Say "Hello there" (space) NAME

Exit

Once you've typed this little program in — making sure that you haven't made any mistakes — save it by pressing the Esc key followed by the X key. The Ed window should close and you'll be returned to the Shell window. All that now remains to do is to run our AREXX program by entering the following command at the Shell prompt:

RX RAM:MyProg

If all went well, you should now be staring at a line of text prompting you to enter your name. Do what it says and then press the Return key and the Amiga will greet you. Clever eh! Okay, so it's hardly very exciting but, as a demonstration of how to write an AREXX program and then run it, our little program has served its purpose beautifully. But how does it actually work? Well, before we get too bogged down in the technicalities, it's worth noting the '!' and '?' symbols that you'll see at the start of the program. As any C programmer will tell you, these are what are known as 'comment markers' and they mark the start and end points of a comment respectively. Any text that you enter between those two markers will be completely ignored by AREXX, so they're there purely for the benefit of the programmer.

Unlike other languages, however, these comment markers aren't optional — all AREXX programs must start with a comment. If you write a script that simply drives straight into code without starting with a comment, you'll get an error message. A native strain limitation maybe, but I'm sure that all professional programmers will agree that adding comments to your AREXX scripts is a damned good idea anyway! You may know what AREXX script does when you first write it, but your coding may not be quite so clear when you return to it after a couple of months. By imposing this restriction on you, AREXX could actually be making your life somewhat easier!

The core of the program is simple enough too. The program uses three AREXX commands — Say, Pull and Exit. Say is the AREXX equivalent of the Basic Print command and its sole role in life is to display strings of text on the screen. The Pull command has a Basic equivalent too — Input. As its name suggests, Pull is used to pull in a string from the user via the keyboard which is then stored into a variable (in this case, the variable NAME). Finally, the Exit command ends the AREXX script.

NEXT MONTH

We'll be taking a look at how to make decisions within an Amiga script. And starting next month there will be a regular section within the AREXX column that will show you how to use AREXX to control other applications.



Enter hacker's paradise with John Armitage as he explores the worldwide network of free Amiga software.

Even if you use your modem regularly, you might never have come across the Internet — one of the Comms lesser known successes. Practically every large computer system across the globe is part of a huge electronic network called the Internet. Each computer on the network is called a Site and many offer access to the general public totally free of charge.

What exactly has this to do with Amigas? Well, the Internet is a collection of sites which all mirror each other that is all files are duplicated between machines. As you might have guessed, the Amiga in Amiga stands for Amiga and the files which are mirrored are the largest collection of PD software in the world. Hundreds of megabytes of software, and it's all there for you free, gratis and loi nothing.

SNAGSVILLE

How do you get at the software? Via the FTP or file transfer protocol. Basically you need to get on to a machine with Internet access and FTP software — not something most people have in their front room.

Before you get all depressed, there are ways. First of all if you are at university or college there could well be just such a machine waiting for you. For example, as my place of learning there is a network of DEC workstations. By logging on I can get directly onto any FTP site, and download programs at about 60K a second. The only problem is getting the programs off the DEC and onto

an Amiga — the DEC doesn't have a floppy disk. The solution here is to log on to the matching network of PCs, and copy the files across.

There should be similar ways of transferring files at your local place of higher education. The best thing to do is ask the nearest, most hack-enthusiastic looking student you can find. Feeling all that high brow stuff, several on-line services have an Internet Gateway. CIX is one which immediately springs to mind.

LOGGING ON

To log onto a site you run the FTP software and type OPEN <name> at the prompt. When asked for a username you enter anonymous and for a password enter your email address. The place you are calling from, now you are on a UNIX-style terminal, from where you can move around the directories. Stick with Public areas (enter od pub) and look for the Amiga directory. Inside you find hundreds of programs, so pick one and enter get <filename>. Sometimes you'll need to enter before you can download files in a first without. Note that as a UNIX system, filenames are case dependent. After get the files will be stored on your terminal and after that it's up to you to get them onto Amiga format. Enter close to leave the system.

NEXT MONTH

More hints on getting into Amiga and what you might find there.



If you're in need of urgent help regarding your Amiga, then Q&A is the place to come.

HERE THEY ARE FOLKS - THE Q&A TEAM



JOHN KENNEDY
Tipped for host of the new University Challenge series, John 'Bamber' Kennedy likes a starter for ten.



MAT BROOMFIELD
Mat would like to stress that he doesn't really look like this - but could you please write to him anyway?

Now you want to know if you should wait. Well, of course you should wait. In a year or so when the new machine is available it will probably sell for about £50. But by these Commodore will have announced the Quadriga A chipset - it will have 32 voices, 64-bit colour, run faster than 1000MIPS and cost £10.

Be realistic. You can only buy what is available now. Who is to say that the new chipset will ever appear and for how much. You might wait a year for nothing, and in the meantime you could have been using the A1200 - probably the best Amiga ever built.

SCREEN SCENE



I'm confused about monitors and I desperately need your advice. I have an A1200 and a Philips CM8633 Mkl monitor, and all is working extremely well. I do a lot of word processing, and I am thinking of getting a monitor which will allow me to display my work in a higher resolution. However, I'm not sure about the difference between hi-res and Interlace. I can't afford a multisync, but I am interested in getting a Commodore 1940.

What I really want to know is: what are the advantages of having a dual sync monitor, and would I need to buy anything else to get the best results from my A1200?

Emma Colley, Witney, Oxon.

A hi-res screen is at least 640 pixels across, and a super hi-res screen is at least 1,280 pixels across. An interlaced display is technically one which flickers as it updates faster than the monitor can cope with. But in Amiga terms it often means a display of about 512 lines.

When the A1200 (or A4000) is used with a dual-sync monitor, it can de-interlace the display which means you can have a 512 line screen with no flicker - and it's a complete revelation to use.

If you are word processing a lot you need three things: a rock steady display, a monitor with a good dot pitch (how detailed the text is) and a decent sized screen (at least 640x512 pixels). The Commodore 1940 will de-interlace the display, but it won't offer much in the way of clearer text, as its dot pitch is similar to the CM8633.

I would recommend you consider a monochrome monitor - you can buy PC-type monitors which will support a de-interlaced display and offer pin-sharp text for about the same price as a CM8633 (try Silica Systems on 061 309 1111). You can then use your Philips for games.

BRING BACK BASIC



I have recently bought my first Amiga - an A1200 and I find it far superior to my previous 8-bit computers. However, the problem is that the various manuals do not explain how to do your

own programming. I would be very grateful if you could tell me the best books to start off with as I know very little about programming the Amiga. Steve Ellis, Wrexham, Chwyd.

Unlike the 8-bit machines, the Amiga doesn't come with a programming language built in, so don't waste your time looking for a Basic interpreter lurking around. The nearest you'll find is Amiga, which is described in our tutorial series.

As for books, well, I could tell you to go out and buy the complete set of official reference manuals - but I won't.

What you need is a copy of *Amiga or Blitz Basic*, which both come with good tutorial works. Perhaps this month's coverdisk will appeal to you as well.

FREE FLOPPY DRIVE



I have an Amiga 500 and I am thinking about getting a CD32. If I bought the CD32 expansion device with a parallel port, serial port and so on, would I be able to connect my A500 to the CD32 and use it with the A500's keyboard and disk drive?

Also, is there going to be a CD32 version of *Mortal Kombat* with 256 colours and use of the multi button controller?

Chris Stevenson, Burnley, Lancs.

Although I have yet to see the CD32 expansion box, I think that I am correct in thinking that you won't be able to use your A500 as a keyboard and drive for the CD32.

What you will be able to do is use the CD32 as a CD-ROM drive for the A500, and access the many disks of PD and demo software with a program such as *Parrot*.

Of course, it demands is high enough someone will write the software to do what you require. And, similarly, if the CD32 sells well enough you can bet that *Mortal Kombat* will appear in all its gory (256-colour) glory.

TV HELL



I'm trying to connect my A600 to a television set. According to Commodore it is possible to connect the A600 to the TV via the SCART socket, but I have tried this with little success.

At the moment I have to be satisfied with colour composite signal. Gerard Kirby, Munich, Germany.

It sounds like a problem with that good old analogue-but-not-quite-a-standard SCART (or Parallel) connector.

Although the SCART connector can support separate red, green and blue lines, they are not always implemented.

If your television sports a true SCART compatible connector, the RGB signal from the A600 should drive it perfectly, and as you know give a much better display than with blurry colour composite.

SOUND ADVICE



Will the films that become available on the CD32 be recorded with the Dolby sound encoding system as used by the dedicated home movie laser disc players, or will the soundtrack be in ordinary hi-fi stereo?

Sean Christian, Douglas, Isle of Man.

The CD32 has the same sort of ordinary stereo sound outputs which a normal audio CD has, and is therefore incapable of any extra clever trickery. However, all VHS tapes which have the Hi-Fi Dolby symbol on them are capable of surround sound when played through a special decoder, so there is no reason why the soundtrack of feature films using the FMV cartridge could not be recorded in a similar way.

MEMORY MADNESS



I have an A600 with a 1Mb expansion card. I would like to add a 4Mb PCMCIA memory card. Could you please tell me how much chip memory will this give me? And how much fast memory will it give me?

J.R. Gellatly, Wellington, Oxfordshire.

Any PCMCIA card will only add to the amount of fast memory you have. Chip memory needs to be tightly coupled to the custom chips, and memory added via the PCMCIA port isn't.

SAY 'AAA'



In the interview with Commodore's vice president of engineering, Lew Eggbrecht (CU Amiga August 1993), Lew said that the new Amiga chipset will have eight voices with 16-bit sound. Please can you tell me more about this chipset? Is it really worth buying an A1200 now if the current Amiga chipset is due for a revamp?

Kevin McOrath, Chedderton.

All I know about the chipset is that it will be many times faster than the current Amiga system, offer true 24-bit colour with support for video compression and that much improved sound you're lusting after.

Unfortunately, you can't get a picture, so therefore your TV is crap. Sorry.

LIBRARY EXPLODE



I own an A600, and I'm having difficulties with the virus checker program given away on the CU Amiga overdisk. I have dragged the icon into my Workbench Startup drawer, but when I reboot I get the message, 'Need explode library v14a'. Can you help?

Tracey Foulsham, Birmingham.

This letter sums up the dozens of similar queries regarding the dreaded exploding library, and the reply will hopefully help everyone to sort out their problem. When the Amiga boots, it likes everything to be in its place. It likes the AmigaDOS commands to live in the C directory, and the fonts to be in the FONTS directory. It also likes libraries to be in the LIBS directory. A library is a special piece of code which offers some common features to programs. In this case, the virus checker program needs some compression and decompression routines and these live, quite happily, in the explode library.

When you boot from the coverdisk, LIBS is set to point to the LIBS drawer on the hard disk, which contains the explode library. When you boot from your Workbench, however, LIBS is set to point to the LIBS drawer on the Workbench - which probably doesn't contain the explode library.

So when you copy the Virus checker program, you also need to copy the library. Some programs come with a utility called something like 'install library' which will automatically copy across any required libraries.

However, being the kind-hearted soul I am, here's a step-by-step guide on how to do it manually (oocor).

1. Boot from your Workbench in the normal way.
2. Open a SHELL window.
3. Put the coverdisk in the drive.
4. Enter COPY d0:libv14a.explore.library to RAM: This will make a copy of the explode library in the RAM disk.
5. Put your Workbench disk back into the drive.
6. Enter COPY RAM:explode.library to LIBS: This will insert the library into the correct drawer.

COBOL CONUNDRUM



I'm learning the COBOL programming language for my college course and I need a COBOL compiler for the Amiga. I've searched the PD libraries but with no luck. Can you please help me? I would be very grateful.

James Deedman, Walling, Kent.

First of all, congratulations on your unfortunate situation. I had to use COBOL as part of my so-called education, and what a waste of my life it was.

I recommend you change colleges to one which won't waste your time with this crappy language, but teaches something useful (such as C) instead.

In my case, this meant a change from the science to engineering faculties. In case you can't manage this, you'll need to get a PC emulator (software should suffice) and a PC COBOL compiler.

DTP ABC



For some time now I have been looking for a DTP package which includes powerful features whilst also being easy to use. Presently I do not own any DTP programs, but I want to produce high-quality work.

Andrew Cheng, Wimbledon, London.

You missed out several important facts, Andrew. How much do you want to spend? Do you have a printer, or will you be using a bureau?

it, as I suspect, you want to debbie your toes in the murky waters of desktop publishing before plunging in headlong, I suggest you get hold of The Publisher, which was reviewed in the December 1993 issue. The Publisher costs about £30, and at this value-for-money price its only competition is the equally adequate PageSetter from Gold Disk. Check out the adverts in this issue of CU Amiga for prices, as they tend to change rather quickly.

BIG NUMBERS



Ever since I've had my Amiga I've been interested in graphics based around mathematics. You may not believe this, but there is actually a limit to the amount of pictures that you can display on the screen.

I have devised a formula to actually calculate the number of screens possible in a screen mode such as low resolution, 32 colours - colours to the power of the number of pixels. It's not a very complex formula I must admit, but it works. For example, if you look at a screen of 320x256 pixels stored in 4096 colours (HAM mode) the number of different screens you could produce would be - far too large to print here - but I can say that the number consists of exactly 295,925 digits.

When you consider that one page of CU Amiga contains approximately 6,400 characters it would take 482 pages of CU to write this number down (about two full issues).

However, this number does cover every single picture seen in any art package or game, ranging from a screenshot of Populous 2 to a Vista Pro 3 image, to a purple dot in the corner of the screen in Deluxe Paint. Thanks for your time.

Daniel White, Walsall.

Thank you Daniel for trusting us with your formula. I trust you have written a program which will randomly fill the screen with dots, because eventually you'll get a picture of your own face. Or the Mona Lisa. Or an image of the Earth as seen from the Moon. Or a full-colour image from the inside of my stomach (How delightful).

In fact, given a fast enough computer we could use your theory to generate the screen shots for the January 1995 issue, which would save us the trouble of taking them at the time.

FLICKER VISION



I have recently bought an 80Mb hard drive for my 2Mb A500 which I have installed myself. After the computer has been switched on the screen flickers quite badly for the first half hour or so, almost as though it was warming up. Is this the case, and is it harmful to my Amiga?

Also, the drive came in two partitions - a 75Mb

partition and a bootable 5Mb partition for Workbench. Is there any way I can enlarge the Workbench partition?

Finally, a friend told me that there is a 29Mb upgrade available for the trapdoor. Is this true? I've never seen them advertised anywhere so I thought I'd check with you. Would a PCMCIA card work with programs such as OctaMED and CreaMorph? Is there any way that I could possibly accelerate the A600, as morphing takes ages.

Deve Park, Leichworth, Herts.

Your screen flickering problem could be power related. Perhaps the standard PSU hasn't enough juice and is straining.

Falling that, either the hard drive or the Amiga is broken - it's certainly not normal behaviour. Early Amiga modulators have been known to flicker between colour and monochrome, but recent ones should probably be okay. The HDTools program has an option screen dedicated to making and altering partitions. You should have no problems reformatting your drive (tools for Workbench is more useful) and if you make sure the tick is in the bootable requester you'll be all right.

Before you start, remember to back up all your data, as re-partitioning a drive will destroy its contents. I haven't heard of any memory expansion for the A500 other than the 1Mb card that fits into the trapdoor, which gives the A500 a total of 2Mb of Chip RAM. Memory added to the PCMCIA card slot is not Chip RAM, but it will still be used by the system. For example, the OctaMED program will automatically load into the PCMCIA memory, leaving more of your Chip RAM for samples.

Currently, the only way to accelerate an A500 is to throw it out of a window. Remember if you upgraded it to a 1200, you could take the hard drive with you.

KEYMAPS



Dear CU Amiga, I can't set the Keymap of my Amiga to GB and I get a \$ when I type a. Lots of people. Everywhere.

OK, I thought this was simple until I had to do it myself again recently on a Workbench 3 system. Again, using your entire Workbench available on a hard disk, you must set the following:

Prata:locale/Country to United Kingdom

Prata:locale/Preferred Language to English and select SAVE.

Then set the following:

Prata:input/Keyboard type to British and select SAVE.

Next time you open a Shell, the keymap should be set properly.

Now, if you are using a floppy only system you will need to make sure that your boot disk contains the file 'gb' in the DEVS:keymaps directory. If it's not there, you'll need to copy it across from the storage directory.

NETWORKING



I'm hoping to upgrade my Amiga 500 to an Amiga 1200, possibly through some sort of part exchange deal. However, the saving I'd make is only about £90 - the price of an external drive. Is it possible to use the

Premier Mail Order

Please send cheque/PO's (made out to Premier Mail Order), or advise Visa/Mastercard number and expiry date to:

Dept CU14, 10 Tinkler Side, Basildon, Essex SS14 1LE Tel: 0268 271172 Fax: 0268 271173

Telephone Orders: Mon-Fri 9am-7pm and Sat & Sun 10am-4pm We Are Open 364 Days A Year
P&P and VAT is included for all UK orders. Please add £2 P&P for Europe and £3.50 for Rest of the World

Next day delivery service available £4 per item UK only.

E & OE

| | | | | | | | |
|-----|-------|-----|-------|-----|-------|-----|-------|
| 100 | 22.99 | 100 | 22.99 | 100 | 22.99 | 100 | 22.99 |
| 101 | 22.99 | 101 | 22.99 | 101 | 22.99 | 101 | 22.99 |
| 102 | 22.99 | 102 | 22.99 | 102 | 22.99 | 102 | 22.99 |
| 103 | 22.99 | 103 | 22.99 | 103 | 22.99 | 103 | 22.99 |
| 104 | 22.99 | 104 | 22.99 | 104 | 22.99 | 104 | 22.99 |
| 105 | 22.99 | 105 | 22.99 | 105 | 22.99 | 105 | 22.99 |
| 106 | 22.99 | 106 | 22.99 | 106 | 22.99 | 106 | 22.99 |
| 107 | 22.99 | 107 | 22.99 | 107 | 22.99 | 107 | 22.99 |
| 108 | 22.99 | 108 | 22.99 | 108 | 22.99 | 108 | 22.99 |
| 109 | 22.99 | 109 | 22.99 | 109 | 22.99 | 109 | 22.99 |
| 110 | 22.99 | 110 | 22.99 | 110 | 22.99 | 110 | 22.99 |
| 111 | 22.99 | 111 | 22.99 | 111 | 22.99 | 111 | 22.99 |
| 112 | 22.99 | 112 | 22.99 | 112 | 22.99 | 112 | 22.99 |
| 113 | 22.99 | 113 | 22.99 | 113 | 22.99 | 113 | 22.99 |
| 114 | 22.99 | 114 | 22.99 | 114 | 22.99 | 114 | 22.99 |
| 115 | 22.99 | 115 | 22.99 | 115 | 22.99 | 115 | 22.99 |
| 116 | 22.99 | 116 | 22.99 | 116 | 22.99 | 116 | 22.99 |
| 117 | 22.99 | 117 | 22.99 | 117 | 22.99 | 117 | 22.99 |
| 118 | 22.99 | 118 | 22.99 | 118 | 22.99 | 118 | 22.99 |
| 119 | 22.99 | 119 | 22.99 | 119 | 22.99 | 119 | 22.99 |
| 120 | 22.99 | 120 | 22.99 | 120 | 22.99 | 120 | 22.99 |
| 121 | 22.99 | 121 | 22.99 | 121 | 22.99 | 121 | 22.99 |
| 122 | 22.99 | 122 | 22.99 | 122 | 22.99 | 122 | 22.99 |
| 123 | 22.99 | 123 | 22.99 | 123 | 22.99 | 123 | 22.99 |
| 124 | 22.99 | 124 | 22.99 | 124 | 22.99 | 124 | 22.99 |
| 125 | 22.99 | 125 | 22.99 | 125 | 22.99 | 125 | 22.99 |
| 126 | 22.99 | 126 | 22.99 | 126 | 22.99 | 126 | 22.99 |
| 127 | 22.99 | 127 | 22.99 | 127 | 22.99 | 127 | 22.99 |
| 128 | 22.99 | 128 | 22.99 | 128 | 22.99 | 128 | 22.99 |
| 129 | 22.99 | 129 | 22.99 | 129 | 22.99 | 129 | 22.99 |
| 130 | 22.99 | 130 | 22.99 | 130 | 22.99 | 130 | 22.99 |
| 131 | 22.99 | 131 | 22.99 | 131 | 22.99 | 131 | 22.99 |
| 132 | 22.99 | 132 | 22.99 | 132 | 22.99 | 132 | 22.99 |
| 133 | 22.99 | 133 | 22.99 | 133 | 22.99 | 133 | 22.99 |
| 134 | 22.99 | 134 | 22.99 | 134 | 22.99 | 134 | 22.99 |
| 135 | 22.99 | 135 | 22.99 | 135 | 22.99 | 135 | 22.99 |
| 136 | 22.99 | 136 | 22.99 | 136 | 22.99 | 136 | 22.99 |
| 137 | 22.99 | 137 | 22.99 | 137 | 22.99 | 137 | 22.99 |
| 138 | 22.99 | 138 | 22.99 | 138 | 22.99 | 138 | 22.99 |
| 139 | 22.99 | 139 | 22.99 | 139 | 22.99 | 139 | 22.99 |
| 140 | 22.99 | 140 | 22.99 | 140 | 22.99 | 140 | 22.99 |
| 141 | 22.99 | 141 | 22.99 | 141 | 22.99 | 141 | 22.99 |
| 142 | 22.99 | 142 | 22.99 | 142 | 22.99 | 142 | 22.99 |
| 143 | 22.99 | 143 | 22.99 | 143 | 22.99 | 143 | 22.99 |
| 144 | 22.99 | 144 | 22.99 | 144 | 22.99 | 144 | 22.99 |
| 145 | 22.99 | 145 | 22.99 | 145 | 22.99 | 145 | 22.99 |
| 146 | 22.99 | 146 | 22.99 | 146 | 22.99 | 146 | 22.99 |
| 147 | 22.99 | 147 | 22.99 | 147 | 22.99 | 147 | 22.99 |
| 148 | 22.99 | 148 | 22.99 | 148 | 22.99 | 148 | 22.99 |
| 149 | 22.99 | 149 | 22.99 | 149 | 22.99 | 149 | 22.99 |
| 150 | 22.99 | 150 | 22.99 | 150 | 22.99 | 150 | 22.99 |
| 151 | 22.99 | 151 | 22.99 | 151 | 22.99 | 151 | 22.99 |
| 152 | 22.99 | 152 | 22.99 | 152 | 22.99 | 152 | 22.99 |
| 153 | 22.99 | 153 | 22.99 | 153 | 22.99 | 153 | 22.99 |
| 154 | 22.99 | 154 | 22.99 | 154 | 22.99 | 154 | 22.99 |
| 155 | 22.99 | 155 | 22.99 | 155 | 22.99 | 155 | 22.99 |
| 156 | 22.99 | 156 | 22.99 | 156 | 22.99 | 156 | 22.99 |
| 157 | 22.99 | 157 | 22.99 | 157 | 22.99 | 157 | 22.99 |
| 158 | 22.99 | 158 | 22.99 | 158 | 22.99 | 158 | 22.99 |
| 159 | 22.99 | 159 | 22.99 | 159 | 22.99 | 159 | 22.99 |
| 160 | 22.99 | 160 | 22.99 | 160 | 22.99 | 160 | 22.99 |
| 161 | 22.99 | 161 | 22.99 | 161 | 22.99 | 161 | 22.99 |
| 162 | 22.99 | 162 | 22.99 | 162 | 22.99 | 162 | 22.99 |
| 163 | 22.99 | 163 | 22.99 | 163 | 22.99 | 163 | 22.99 |
| 164 | 22.99 | 164 | 22.99 | 164 | 22.99 | 164 | 22.99 |
| 165 | 22.99 | 165 | 22.99 | 165 | 22.99 | 165 | 22.99 |
| 166 | 22.99 | 166 | 22.99 | 166 | 22.99 | 166 | 22.99 |
| 167 | 22.99 | 167 | 22.99 | 167 | 22.99 | 167 | 22.99 |
| 168 | 22.99 | 168 | 22.99 | 168 | 22.99 | 168 | 22.99 |
| 169 | 22.99 | 169 | 22.99 | 169 | 22.99 | 169 | 22.99 |
| 170 | 22.99 | 170 | 22.99 | 170 | 22.99 | 170 | 22.99 |
| 171 | 22.99 | 171 | 22.99 | 171 | 22.99 | 171 | 22.99 |
| 172 | 22.99 | 172 | 22.99 | 172 | 22.99 | 172 | 22.99 |
| 173 | 22.99 | 173 | 22.99 | 173 | 22.99 | 173 | 22.99 |
| 174 | 22.99 | 174 | 22.99 | 174 | 22.99 | 174 | 22.99 |
| 175 | 22.99 | 175 | 22.99 | 175 | 22.99 | 175 | 22.99 |
| 176 | 22.99 | 176 | 22.99 | 176 | 22.99 | 176 | 22.99 |
| 177 | 22.99 | 177 | 22.99 | 177 | 22.99 | 177 | 22.99 |
| 178 | 22.99 | 178 | 22.99 | 178 | 22.99 | 178 | 22.99 |
| 179 | 22.99 | 179 | 22.99 | 179 | 22.99 | 179 | 22.99 |
| 180 | 22.99 | 180 | 22.99 | 180 | 22.99 | 180 | 22.99 |
| 181 | 22.99 | 181 | 22.99 | 181 | 22.99 | 181 | 22.99 |
| 182 | 22.99 | 182 | 22.99 | 182 | 22.99 | 182 | 22.99 |
| 183 | 22.99 | 183 | 22.99 | 183 | 22.99 | 183 | 22.99 |
| 184 | 22.99 | 184 | 22.99 | 184 | 22.99 | 184 | 22.99 |
| 185 | 22.99 | 185 | 22.99 | 185 | 22.99 | 185 | 22.99 |
| 186 | 22.99 | 186 | 22.99 | 186 | 22.99 | 186 | 22.99 |
| 187 | 22.99 | 187 | 22.99 | 187 | 22.99 | 187 | 22.99 |
| 188 | 22.99 | 188 | 22.99 | 188 | 22.99 | 188 | 22.99 |
| 189 | 22.99 | 189 | 22.99 | 189 | 22.99 | 189 | 22.99 |
| 190 | 22.99 | 190 | 22.99 | 190 | 22.99 | 190 | 22.99 |
| 191 | 22.99 | 191 | 22.99 | 191 | 22.99 | 191 | 22.99 |
| 192 | 22.99 | 192 | 22.99 | 192 | 22.99 | 192 | 22.99 |
| 193 | 22.99 | 193 | 22.99 | 193 | 22.99 | 193 | 22.99 |
| 194 | 22.99 | 194 | 22.99 | 194 | 22.99 | 194 | 22.99 |
| 195 | 22.99 | 195 | 22.99 | 195 | 22.99 | 195 | 22.99 |
| 196 | 22.99 | 196 | 22.99 | 196 | 22.99 | 196 | 22.99 |
| 197 | 22.99 | 197 | 22.99 | 197 | 22.99 | 197 | 22.99 |
| 198 | 22.99 | 198 | 22.99 | 198 | 22.99 | 198 | 22.99 |
| 199 | 22.99 | 199 | 22.99 | 199 | 22.99 | 199 | 22.99 |
| 200 | 22.99 | 200 | 22.99 | 200 | 22.99 | 200 | 22.99 |

SPECIAL OFFERS

| | |
|-----------------------------|-------------|
| Amber Knights | 9.99 |
| Check Book | 10.99 |
| Starry Party | 6.99 |
| Kick Off 2 (Mag) | 9.99 |
| Kick Off 2 Final (Mag) | 7.99 |
| Kick Off 2 Return to Europe | 7.99 |
| Kick Off 2 Wyming Tickets | 3.99 |
| Almanac Gold | 14.99 |
| Property 2 | 9.99 |
| Shadow Worlds | 9.99 |
| Thunderstorms | 5.99 |
| Ying Commander | 13.99 |
| Zoo | 12.99 |
| Zoo | A1200 12.99 |

EDUCATIONAL

| | |
|--------------------------------------|-------|
| Adi English (All Ages) | 17.99 |
| Adi French (All Ages) | 17.99 |
| Adi Maths (All Ages) | 17.99 |
| Adi Spelling (All Ages) | 17.99 |
| Adi Science (All Ages) | 17.99 |
| Adi History (All Ages) | 17.99 |
| Adi Geography (All Ages) | 17.99 |
| Adi Art (All Ages) | 17.99 |
| Adi Music (All Ages) | 17.99 |
| Adi Physical Education (All Ages) | 17.99 |
| Adi Languages (All Ages) | 17.99 |
| Adi Computing (All Ages) | 17.99 |
| Adi Design (All Ages) | 17.99 |
| Adi Drama (All Ages) | 17.99 |
| Adi Dance (All Ages) | 17.99 |
| Adi Sports (All Ages) | 17.99 |
| Adi Health & Safety (All Ages) | 17.99 |
| Adi Law (All Ages) | 17.99 |
| Adi Politics (All Ages) | 17.99 |
| Adi Economics (All Ages) | 17.99 |
| Adi Social Studies (All Ages) | 17.99 |
| Adi Environmental Studies (All Ages) | 17.99 |
| Adi Religious Studies (All Ages) | 17.99 |
| Adi Philosophy (All Ages) | 17.99 |
| Adi Psychology (All Ages) | 17.99 |
| Adi Sociology (All Ages) | 17.99 |
| Adi Anthropology (All Ages) | 17.99 |
| Adi Archaeology (All Ages) | 17.99 |
| Adi Geography (All Ages) | 17.99 |
| Adi History (All Ages) | 17.99 |
| Adi Literature (All Ages) | 17.99 |
| Adi Languages (All Ages) | 17.99 |
| Adi Mathematics (All Ages) | 17.99 |
| Adi Music (All Ages) | 17.99 |
| Adi Physical Education (All Ages) | 17.99 |
| Adi Science (All Ages) | 17.99 |
| Adi Spelling (All Ages) | 17.99 |
| Adi Sports (All Ages) | 17.99 |
| Adi Technology (All Ages) | 17.99 |
| Adi Visual Arts (All Ages) | 17.99 |
| Adi Writing (All Ages) | 17.99 |

JUNIOR ADVENTURE

| | |
|-----------------------------|-------|
| Batman Hood (8+) | 13.99 |
| Scary 16 (Children's Novel) | 13.99 |
| The Thin Red Line (8+) | 13.99 |
| Wind in the Willows (8+) | 13.99 |
| Wizard of Oz | 13.99 |

JOYSTICK & ACCESSORIES

| | |
|----------------------|-------|
| Joystick Register | 17.99 |
| Joystick Turbo | 10.99 |
| Joystick Turbo II | 11.99 |
| Joystick Turbo III | 11.99 |
| Joystick Turbo IV | 11.99 |
| Joystick Turbo V | 11.99 |
| Joystick Turbo VI | 11.99 |
| Joystick Turbo VII | 11.99 |
| Joystick Turbo VIII | 11.99 |
| Joystick Turbo IX | 11.99 |
| Joystick Turbo X | 11.99 |
| Joystick Turbo XI | 11.99 |
| Joystick Turbo XII | 11.99 |
| Joystick Turbo XIII | 11.99 |
| Joystick Turbo XIV | 11.99 |
| Joystick Turbo XV | 11.99 |
| Joystick Turbo XVI | 11.99 |
| Joystick Turbo XVII | 11.99 |
| Joystick Turbo XVIII | 11.99 |
| Joystick Turbo XIX | 11.99 |
| Joystick Turbo XX | 11.99 |

3.5" BLANK DISKS

| 100 | 200 | 400 | 600 | 800 | 1000 |
|-----|-------|-------|-------|-------|------|
| 10 | 7.99 | 6.49 | 5.99 | 4.50 | |
| 20 | 14.50 | 11.99 | 10.99 | 8.50 | |
| 30 | 21.99 | 17.49 | 15.99 | 12.00 | |
| 40 | 28.49 | 24.99 | 20.49 | 15.00 | |
| 50 | 35.00 | 28.00 | 23.99 | 17.50 | |
| 100 | 65.00 | 49.99 | 44.99 | 35.00 | |

COMPILATIONS

| | |
|---|---|
| BREATHERS' JUNK Juni 1.5000000000 11.99 | COMBAT CLASSICS # 11.99 11.99 11.99 |
| NOAH'S GIGGLE Clouds Strips 1000000000 2.99 | PARODY HORROR Pirates, Puppets, Bunnies 1000000000 233.99 |
| ARMED VIBRATOR Puppets, Toys 4.99 5000000000 2.99 | POOFBALL CHART Wall Chart 2.99 1000000000 25.99 |
| THE BIG 2 Book 1000 | |

33 internal drive from the A500 as an external drive on the A1200, either by linking the machines or taking the drive out and rewiring it?

It's possible I'd like to keep my A500 in one part, so I can use the drive from any other machines? In fact, are there any parts from old Amigas that can be used with the A1200?
Ben Hollis, Norwich, Norfolk.

Using the PD program *Parmit* (see next month's DIY section for full details) you can connect the A500 and A1200 together, and the A1200 can access the A500's floppy drive. And vice versa. Unfortunately, it isn't possible to use an internal drive as an external Amiga drive as some extra electronics are required.

The same goes for any naked drive mechanism you might see, so stick to Amiga specific drives.

As for cannibalising the A500 for parts – again, I'm afraid not. The mouse is probably the only part of the system that could be used as the A1200 motherboard and chips are several years more advanced than the trusty old A500, and nothing would be any use.

WHEN I GROW UP...



I'm 14 and I wish to write games software for a living on the Amiga. When I'm older, so I thought I'd start learning now.

I already know how to use AMOS, so I want to get DevPac and learn 680x assembly language – or I did until I saw a line in CU AMIGA that said the 'C' language was more powerful than machine code. Could you tell me what language the games companies use and what books and software I might need?
Lenny, Worksep.

Which language is more powerful is open to debate. For pure speed, you can't beat real assembly language because that's what every other language is eventually translated into.

On the other hand, C offers a lot of support for data structures and function calling – ideal for larger programs and making use of the operating system. Interestingly, a good C compiler will produce code almost as good as hand-written assembler.

Most games compile use assembler, but more are turning towards C because, as games become more and more complicated, it makes sense to write all the game logic in C and keep the assembler for the ultra-speed-critical graphics code.

My advice to you would be to learn C first because the principles involved are more important than knowing the Motorola instruction set inside out. Anyone who can progress can learn how to code in assembler in a day – it takes a lot longer to learn how to program in the first place, and longer still to learn how to program the Amiga.

WELL HARD VIRUS



I'm considering buying an Amiga 1200, and have some questions.

1. How do I know if there is a virus on a hard disk and how do I get rid of it? Does it mean that everything has to be reloaded, including all of Workbench?

2. How do I know if programs on floppy disk will install onto a hard drive?

3. I have loads of Spectrum games on tape, and I notice that there is a Spectrum emulator in the public domain.

How do I connect the cassette recorder to the

Amiga? What do you think the chances are of getting the games working?

4. By the way, who is Fred Fish? Am I like one not in on this?

Robert Pickering, Danbigh, Chwyd.

I hope you decide to go ahead and get a A1200. Here are some answers:

1. A public domain program such as VirusChecker will look through the files on the disk, and if it finds a virus it will delete the suspect files. You don't have to install anything again.

2. The box the game comes in will usually have a sticker on it, but the best way is to check the reviews in CU Amiga as we'll always say if a game can be installed or not.

3. The Spectrum emulator can load games from cassette tape by means of any normal tape recorder connected to an Amiga sound digitiser (emulator).

As long as the game doesn't make use of any strange copy protection methods, nearly all Spectrum software works fine: I've been playing the classic game *Thrux* with the emulator on my A4000 quite a bit. Well, until I bought *Frontier*.

4. No, you are not alone in your ignorance about Fred Fish. At the recent 'meeting of minds', practically all of the Amiga developers present had no idea about the identity of Fred Fish. To me this says a lot about the developers – they treat the Amiga simply as a game console and have no interest in the Amiga community at large. There's no great mystery about Mr Fish – Fred is the guy who collects all the Amiga PD to release as his 'Fish Disk'. He has so much software now that he's releasing it only on CD-ROM, so buy the best CDV in the shop now.

PICTURE SWOPPING



I often swap pictures on disk between my dad's PC and my Amiga by using *CrossDOS* to load the PC-format disks on the Amiga Workbench. My dad also has an Apple Mac in work. In there any way I can get the Amiga to load these sort of disks? There is a colour scanner connected to the Apple and it would be great to load the pictures into *Deluxe Paint*.
Colin Turner, London.

The trick is not to get the Amiga to think like a Mac, but to get the Mac to think like a PC.

Confused? Don't worry – the Apple Mac uses a very strange way of storing data on floppy disks, but with the Mac program *Apple File Exchange* which will Macs come with, it can read and write to ordinary PC format disks.

As you know, the Amiga can read PC disks through *CrossDOS* (included with all WE3 machines) so the only remaining problem is the file format.

A common Mac file format is the TIFF, which is totally incompatible with the Amiga's own IFF. However, there are some programs in the public domain which will convert files for you. Some Mac programs also support JPEG which is a great way of squeezing large 24-bit colour files onto a single floppy.

THE NEED FOR SPEED

I have a number of questions weighing heavily on my mind. Please can you help ease my worries and calm my fevered brow by answering the following technical queries

1. Why do you need a memory expansion to increase the speed on an A1200?

2. Would it be better to fit a Power Computing PCI 200-4 or a Microbotics MBX12002 with the same amount of memory?

3. Do I really need an FPU if all I want to do is play games?

4. Does the running speed of the CD32 match that of an A1200 fitted with extra memory?

5. Is the access time from a CD-ROM faster than from hard drive?

6. Assuming the answer to question 4 is yes, if bought a CD-ROM drive for my A1200 would I no longer need the memory expansions?

7. Is it possible to use normal joysticks with the CD32?

B.A. Doherty, Wincelord, Cheshire.

Well, after that heart warming plea, here are some equally weighty answers which I hope will solve some of your worries:

1. The A1200 comes with 2Mb of chip memory as standard. Chip memory is shared between the CPU (the Motorola 68020) and the custom chips which produce graphics and sound. Because of this shared arrangement, the CPU takes slightly longer than normal to access the memory, and this slows the computer down slightly.

When extra memory is added via the Ixapdoor, the CPU has immediate access and can therefore run at full speed – this explains why it is called Fast memory.

2. Depends on which one you like best. Seriously though, we're doing a complete round up of all A1200 peripherals soon which should answer your question.

3. No, if you only play games the extra speed of an FPU is wasted.

It does make sense to buy a memory board which could theoretically support an FPU in case you change your mind, and get hooked on graphics or sound software.

4. No, as the CD32 has only (ha! only!) 2Mb of Chip RAM, it runs at the same speed as an unexpanded A1200.

However, the CD32 has an extra chip (Akiko) which can speed up some graphics operations ever so slightly.

5. No, a hard drive is much faster. A double speed CD-ROM (like the one fitted to the CD32) will shift data at about 300K a second, a lot slower than a good hard drive.

With good programming, CD access can appear a lot faster – certainly fast enough to spoof graphics and sound data directly from disk.

6. The question is: if you bought a CD-ROM drive for the A1200, where would you stick your memory expansion?

This is a question which can only be resolved when Commodore release details on the CD-ROM drive.

7. Yes, although the supplied joystick is better because it supports more buttons.

Phew, now, with all that hot finished, I'm mentally and physically exhausted. I'm going back to Commander Kennedy in *Elite II*, who is somewhere deep in the Groombridge system. Till next month playmates.

Q&A is your indispensable guide to the Amiga where our team of experts attempt to answer all your Amiga-related questions.

If you still have some more burning questions, write to Matt and John at CU AMIGA, Priority Court, 30-32 Farringdon Lane, London EC1R 3AL.

OCTAMED 5

PART

1

It's hip, it's hop, it's happening. Tony Morgan checks out the latest grooves you can create with your Amiga.

SOUND LAB

Although OctaMED is an amazingly powerful program, if you can't get over the first few hurdles you might never realise just what's possible with this little gem. In the first of an on-going series, this month we'll be concentrating on the basics - enough to get you up and running without getting too deep in confusing details. Even if you don't understand everything, this simple step-by-step guide should have you waking up the neighbours in no time. The series will be geared towards the new features of OctaMED V5, but wherever possible there'll be notes on the equivalent features of previous OctaMED versions.

THE LOW DOWN

There are a few theories and facts which should be explained before we start, and which should help you make a bit more sense of what's to come. 1. Like other trackers, OctaMED outputs two samples to the left channel and two to the right when it's in normal four-channel mode. The two outside tracks (far left and far right on the screen) go to one side, while the middle two go out through the other. Usually mono samples are used. Stereo samples are actually two samples (a left and a right version of the sound), and so would take up two tracks each. 2. Songs are constructed by recording different blocks, then arranging the blocks to play in a specific order. The order in which you create the blocks has no bearing on the order in which they are played in the song. That's entirely up to you. 3. Although only four samples can be played at any one time in four-channel mode, you can use up to 63 samples in any one song (memory permitting). Any sample can be placed on any track you like. You could even play the same sample on all four tracks at once if you needed to. Okay, now to make some noise.

SAMPLING A SOUND

You could load a sample from disk, but that's a lot of money. Here's how to sample your own sound. You should have an audio source connected to

your sampler cartridge. Click in the sample name box. This is found in the middle at the top of the screen on V5 and is accessed via the INSTR button on previous versions. Choose a name for your sample and type it into the box. Ignore the 'Error: object not found' comment.



Mastering the volume of the incoming sound is an important factor in getting a good quality reproduction.

Click on EDIT SAMPLE (SMPED on earlier versions), then click in the box marked PITCH, and replace the number 428 with 214 (remembering to press RETURN to register the change). This sets the sample rate. Instead of kilohertz, OctaMED uses a measurement called period. The higher the number, the lower the sample rate. Use a lower number for higher-quality samples. A period of 214 is the same rate used to play back the note C. Click in the BUFFER SIZE box, and type in 6000.

This will open up a blank space for you to sample into that's 60k long (60 thousand bytes).

Click on the MONITOR button. Play your record, CD or tape, or make a noise into the microphone if you have one connected. You should see the line in the monitor box start to jump up and down. If there's little or no reaction in the monitor window, check your cables and then adjust the volume level on your input. Tweak the volume until the sound wave just touches the top and bottom of the box, without flattening out.

Once you've got the volume level right, close the monitor window (or click the right mouse button with older versions of the program). This takes you out of monitor mode. Now cue up your sound source to a point just before the bit you want to sample. Click on DIGITIZE (or click RECORD twice with older versions), and start your sound source playing. It will then be recorded into the blank sample space.

TRIMMING YOUR SAMPLE

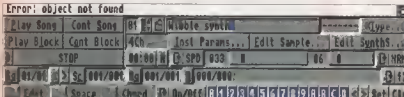
You'll now have some spare noise at the start and end of your sample. This needs to be cut off before



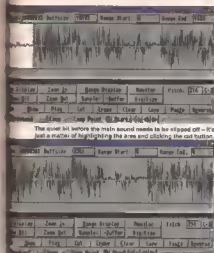
you can use your sample properly.

Press F2 or click the octave grid that's currently marked 12, which stands for octaves 1 and 2. You should now have octaves 2 and 3 selected. Now when you press Q on the keyboard, your sample will be played at the correct speed. Watch the line travelling along the sample as it plays. Take note of where the line is on the sample when you hear the part you want. Highlight the immediate area surrounding the start of the bit you want to pick out by holding down the left mouse button (right button on previous versions), and moving the mouse over the required area.

Click on the SHOW RANGE button and the highlighted area will be expanded to fill the sample window. Repeat the highlighting and zooming process if you need to get a larger view of the sample. Click on PLAY DISPLAY whenever you need to



You can name your samples anything you like. There are tags that are used to help you identify them when you're using OctaMED, and can also double as filenames for the samples, although you could save this sound to disk with a completely different filename.



The quiet bit before the main sound needs to be wiped off - it's just a matter of highlighting the area and clicking the cut button.

Now the start has been returned, you can do the same with the unwanted section at the end.

here the visible section of the sample again.

Once you've located the start of your required section, click on it with the left or right mouse button. Now click the SHOW ALL button, which will zoom the display right out again. Move the pointer to the left of the range you've just set, and hold down the SHIFT key. Hold down the left or right mouse button (depending on which version you're using), and drag the range to the left.

Click on the CUT button, and the unwanted sound at the start of your sample will be trimmed off. When you press the Q key now, you should hear the difference. Repeat the process to trim

unwanted sound from the end of the sample.

LAYING DOWN A TRACK

Close the sample editor window (as if you were using a previous version click the button at the top right marked with four columns of little lines). Using the Amiga keyboard, practice playing a few riffs or rhythms with your new sample. When you've got something you're happy with, click on the E and D buttons. Next time you press a key, the block will start rotating, and anything you play will be



That magical "D" button is a handy thing, which allows you to automatically start recording as soon as you hit a key.

recorded. Start when you're ready. Once the block reaches line 63, it loops back to the start. To stop recording, press the SPACEBAR or click the STOP button.

To record another track, move the cursor square with the arrow keys, so that it's across the three short horizontal lines on another track. To sample another sound, use SHIFT and the RIGHT ARROW KEY to move to sample slot number 2. Repeat the sampling and editing process (I am assuming to give your second sample a different name from the first). You can now sample as many sounds as you have room for in memory, and go on to lay down tracks three and four.

NEW BLOCKS

That's the first block sorted, but a song needs more than one block. To create another block, move to the BLOCK menu and select NEW > APPEND. Users of previous versions should click the BLOCK button, followed by the NEW BLOCK button. Use SHIFT and ARROW DOWN key to move to you

WE WANT YOUR TUNES

Yes, the popular Tune of the Month starts back. You think your compositions deserve to take a substantial prize? Over 120,000 people, then we want to know about it. Wherever possible, we'll be including a random Tune of the Month as one of the rewards. The important point to remember is to keep your tunes as small as possible, without compromising the original flavour too much. If you can squeeze your musical masterpiece into 150k or less, whack it on a disk (with the relevant player required), and send it to: Tune of the Month, Ltd, AMIGA, Henry Court, 30-32 Farringdon Lane, London: EC4R 3AU.

new block. Repeat the block recording process.

Now you should have two different blocks. To make these into a song, you need to insert them into the playlist. Click on the SQ button or select PLAYING SEQUENCE from the SONG menu. Use the INS CURR (insert current) button to place the blocks in your preferred order, using the slider bar and pointer to position the insertion point. The current block is the one you can see - to change this, use the ARROW UP and DOWN keys. Users of previous versions must use the INS and arrow keys at the top left of the screen. Click on PLAY SONG to hear the whole thing.

Hurrah! Now you've got the basics, you can start messing around with the rest of the program. Next month we can get stuck into some of the more advanced features that can turn an average track into a classic. **31**

OCTAMED V5 PD

If you want to try out the new Octamed version 5, there's a free demo disk version currently available for the price of a disk. This is complete in every way except for the save feature, on-line help and locale support, and is available from Softbit Computing, the Business Centre, First Floor, 80 Woodcock Avenue, Wokingham, West Sussex, RG40 3EX. Enclose a cheque or postal order for £2.

COMMONLY USED KEYS

SPACE: stops a song, block or sample playing.
ARROW KEYS: move the edit cursor around the block.

SHIFT ARROW KEYS: up and down move through the blocks, while left and right move through the samples.

ESCAPE: toggles edit mode.

NUMERIC KEYPAD: toggle tracks on and off.

F KEYS: change active.

HELP: on-line help mode (version 5 only).

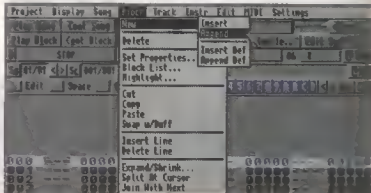
APOSTROPHE (below ESCAPE): toggles double line spacing.

TAB: highlights the current line (has no effect on the sound).

DELETE: deletes the current entry beneath the cursor.

CTRL F: displays the amount of free memory (both chip and fast), and also the largest single block available.

Version 5 users can also use the numeric shortcuts (triggered by a combination of the Amiga key and the corresponding letter beside the menu option).



A song is made up of a series of blocks along to which in your chosen order, so after you've recorded your first block, the next thing to do is to create a new one from the BLOCK menu.

BACKCHAT

We found that long-haired layabout Dillon beneath an enormous pile of Christmas cards and good wishes. Dragging him out and stapling him to his desk, we eventually managed to get him to answer a few letters from this month's letter's bag.

THE FAR SIDE

By GARY LARSON



"Thank God, Sylvia! We're alive!"

TEAM TALK

Christmas is coming, and the staff are getting fed. Please stick a penny (or a couple of million) in the EMAP Pension fund.

FRONTIER FAULTED?

I am writing to a computer magazine for the first time with this letter, and it is to complain in the strongest possible terms about the rating and review that was given in your mag to *Frontier*. I have read CU AMIGA for some years and, on the whole, the games I have purchased on your recommendation have been as described. However, I have played *Frontier* now for about eight hours and I am disappointed in the extreme.

1. The autopilot which is supposed to land you on a planet without the need for human intervention does not. Once locked onto the target planet it crashes the ship regularly when approaching the planet to land. Indeed it has never successfully landed in 16 attempts!

2. Combat is a joke! Even after getting a lock on to an enemy ship the speed of hundreds of thousands of kilometres per hour is maintained and most ships are in and away before the autopilot has a chance to react.

In the original Elite it was simple to slow to zero speed, orient the ship and then accelerate and engage in dogfighting. Frequently in *Frontier* the enemy ships circle you continuously as you hurtle at thousands of kilometres per hour in a straight line with the autopilot struggling to keep them in your sights!

At that speed it takes half a solar system to slow down to allow what might be effective manual combat, but I have never had the hours to spare just slowing down to find out!

The above faults make the game impossible to play. How can any game pass the play testers, never mind be given such a high rating and such a glowing review? Do you have a reply?

Stuart Murdock, Ayrehire.

Your problems with *Frontier* are common, yet very easy to solve. The main problem a lot of people had is the 'ship crashing into planets' syndrome. One thing you need to remember is that the autopilot and the docking computer are separate entities - the autopilot simply gets you to a targeted space co-ordinate, and then the docking computer takes over. The autopilot takes no notice of what is actually in front of it, only concentrating on actually getting you there. So, if the spacecraft is on the wrong side of the planet, it will try to fly through the planet to get to it! The only way to remedy this is to either make sure you pick a location that you can reach, or switch off the autopilot when you are near the planet and fly around it manually. In terms of combat, the

THE FAR SIDE

By GARY LARSON



Laboratory peer pressure.

autopilot is not an automatic guidance system. Yes, it works fine if you are fighting a large, slow ship, but against anything else, you're going to have to rely on your own reflexes.

WHY NOT?

So the CD32 arrives and I'd like to express my disbelief in most computer games manufacturers' attitudes. They complain bitterly about piracy and then along comes a new virtually pirate-proof format and they sit on their laurels and wait to see if it sells. If they cared about their future, they should convert all their good games to the CD format NOW.

The games don't need massive upgrading to make use of the CD32's custom chips. I heard a rumour that a good game is based on good gameplay!

What the CD32 needs is games to make it sell. Sure it will cost them in the short term, but in the long term we'll all be better off. Maybe then they won't blame their poor sales on pirates and will be forced to make sure the games are worthy of release.

And we, in turn, will be treated to a far new

DAN SLINGSBY



As though practising for the January sales, Dan is spending every waking moment (and most of his sleeping ones) chained to his desk. The Swinging Slingsby has been editing not one, but two magazines at the same time these past couple of weeks, and the result being not enough sleep, there never being any coffee in the office in the morning and a rather disgruntled editor. That said, he's about to disappear for a couple of hours doing something he calls 'testing'. A strange concept - maybe some of the rest of us will get to try it sometime!

JON SLOAN



Damp flares and a deep welling behind the eyes all round, as CU AMIGA's own Lethal Weapon, 'Steel Hands' Sloan packs up his desk in a small knapsack and heads for pastures new. Yes, it's true, those wild furies over at Konami have managed to lure Jon away with nothing more than a measly pay rise and a poetry company card. Oh and things like a desk with more than one draw and sensible working hours. We can't understand why he is undergoing such a rash act, but we wish him all the best anyway. The Jimmy Beggar.

generation of games and conversions of great stuff like *Day Of The Tentacle* will appear. Paul Duncan, London.

It's a sad but true fact that, although it would be quite easy to just dump standard Amiga games on to a CD, most companies are still waiting for large enough sales figures before taking the plunge.

The question is, would the people who have been good enough to shell out for this wonderkind of a machine really settle for what can only be described as showpieces? How many people now are particularly happy at the amount of games that don't like advantage of the AGA chipset? What do you think?

THE CD DEBATE RAGES ON...

In your November issue, Simon Marky raised the interesting point of coverdisk floppies vs CDs. You said that you would stick with the former for at least another year. I suggest, however, that you start mounting CDs on the front of the magazine as soon as possible. The reason is that I would love to buy any kind of CD-ROM drive if it were not for the software. Being a poor student (aren't we all?) I need all my savings for hardware and the only software I can afford is either PD or coverdisk material.

It really is a chicken-and-egg problem. If you or other mags do not have cover CDs, there is hardly an incentive for me to buy a CD-ROM drive. But if I and many others do not own such a drive there is no incentive for you to bring out CDs. The solution to this lies in the fact that most people do own audio CD players. So in the first months you could test out CDs that 'only' contain, say, 100Mb of software and the rest sound.

For instance, I would not mind hearing interviews with Amiga celebrities like Jay Miner, Fred Fish or Francois Lionet. Or you could put in demos of albums by artists using the Amiga, like Snap or Coldcut. You could even get one of them to do an Audio Workshop on 'How to Make a Top Ten Hit Using Only MED and a Pile of James Brown Samples'.

Branko Collin, Nijmegen, The Netherlands.

Branko, we argue the loss amongst ourselves every day concerning a cover-mounted CD. We do intend to give away CDs at some point in the future, so watch this space.

HELP!

I hope you can help me. I have been reading your outstanding magazine now for four years, which is how long I've had my Amiga, and I have nearly every coverdisk from CU AMIGA. But last year my computer caught the Revengeal virus, which destroyed over half of my disk collection.

After heaven terminated the virus, I am still in the process of reformatting my disk bases. But one disk, namely CU AMIGA coverdisk 23, has been

LETTER OF THE MONTH

VERY WORRIED

I am very worried that one of my favourite Amiga magazines cannot be trusted any more when it comes to game reviews. I am very worried that CU AMIGA, in the ever more competitive magazine niche for games exclusives and first reviews, is starting to lose the hype and not really play testing the actual games at all. This might be the charitable interpretation. The more cynical view would be that CU AMIGA is being forced into giving good reviews/false information to secure the exclusive review/advertising/demo from the software house.

There has been a very worrying trend in the last six months for some of my major games reviews and previews to read almost as though they have been written by the software houses' respective marketing departments. Rather than independently analysing games for your readership, you seem to have entered into a faction pact with the software companies which requires you to make all sorts of over-inflated (and sometimes downright misleading) claims for their games. The damage is then compounded by software houses using your reviews in their advertising to evidence 'how wonderful' the game is. Subsequently, people who have bought these games in good faith (as of your reviews) have lost a great deal of respect and you are becoming a bit of a laughing stock.

"Infamy," you say, "where's your evidence?" Well,

1) Your *Frontier* review in the November 1993 issue. *Frontier* is good, but it is not that good. Your score of 97 per cent makes it almost a perfect game, but the program has a couple of gameplay faults (not to say some spectacular bugs) which became evident to the player within a couple of days. If you had reviewed the game properly, these would surely have marked the game down and deflated your 'most important step forward for games this decade' claim. For instance,

• The actual is so jerky near spoons that dogfighting cannot be visually possible. (Dogfighting near spoons is also illegal. Nothing will attack you near a port unless you have fired first. Naughty, naughty.)

• When you enter a new system, pirates seem to be generated randomly, so when your ship is poorly armed, it's best just to save the game at every space station.

• Most ships seem to be piloted by mad kamikaze pilots whose only combat tactic seems to be ramming you.

• The hyperspace logic of the game is flawed. When you go on reconnaissance missions, the huge cruisers hyperspace at speeds that are not obtainable from the ship stats, forcing you to buy a ship to keep up with them.

• Cruising is a right pain. You have to hope there are no watch dog wanted ships at the space stations and then you find the wrong figures for ships are completely different from those printed in the manual.

• In some ground-based stations with retractable roofs, you can't get out without blowing up — the game seems to think the roof is self-retracted when you try to take off.

I could go on, but surely with these faults this can't be a '97 per cent' ultimate in space adventure' game?

2) Your scoreboards (for there can be no other word) instead of Jason's Epic and subsequent refusal to back down over the ridiculously high mark you gave it. The game is awful. It's a pretty dense shell that's fleshed in about two hours. One of your competitors gave it 34 per cent. Can we really believe you reviewed the game impartially or seriously?

3) The DVD preview feature in the June 1993 issue. I was very excited about your three page feature on *Infamy/TFX* and the lovely screenshots you showed (captioned by comments like "Welcome to the first truly amazing AI 2000 game"). I happened to be at the CES show in Olympia soon after and immediately made for the Coscom/DVD stand to ask them how they'd found working with the new Amiga, only to be met with blank faces from DVD themselves and the comment that 'we haven't even started the Amiga version yet, it will be out next year sometime'. Your so-called Amiga feature was all PC screenshot — your desperation for exclusives seems woefully evident.

Now any of the above, I'd call a shag, but a problem, but these is a downright travesty. There's no harm in being enthusiastic about a game, but there's a great damage caused by over-hyping, misrepresenting and under-revealing new releases just to get the edge on the competition.

Amiga purists, like myself, rely on magazines like yours to give us an independent and trustworthy view on games and help us steer through the massified of generic drags that is all so easily pumped out by the software houses these days. We rely on you for quality control — if you're thrown in your hat with the houses then you are nothing more than a corporate brochure and off to hell.

Impossible chasing of games a exclusive can only bring you short term sales and will alienate the vast majority of readers who will (rightly) conclude that if they can't trust what's here, then at least more might be untrue. Please look hard at your editorial policy on game reviewing before it's too late and resolute a sense of perspective in the pages. If you're not careful, you will lose the support of the Amiga community. A good start would be to print this letter.

Ian Watson, Norwich.

I feel a little disturbed about your reaction to the *Frontier* review. I assure you there is nothing comparable about the way CU AMIGA reviews games — and, remember, a review is merely a stated opinion. I was extremely antipathetic about *Frontier*, and still am after playing it until three or four some mornings. True, there are a couple of bugs, but nothing that really affects the gameplay. However, that is my opinion, and you are completely within your right to disagree. That isn't to say that either of us are wrong, of course. But judging by the public reaction to the game, I would say that I am in the majority. As for the TFX preview — yes, they were PC screenshots. However, they are identical to the Amiga in every way (256 colours, texture mapping etc), which is the only reason we used them. CU AMIGA is not out of its cor, nor are we willing to compromise ourselves in order to gain exclusives.

TONY DILLON



Some would say that he's never really been alive, but that didn't stop E Hory Klauder from having a near death experience while on a trip to Dublin the month. On his return flight the engine nose dropped to nothing and the plane fell sideways for a thousand feet or so.

It levelled out a moment later, with the Captain announcing over the tannoy that 'We have started our descent a little early.' 'I wasn't scared,' he claimed. 'Horry says yes.' However, since the incident he won't get in the left, and even walks slowly down the stairs now.

TONY HORGAN



Tony's getting his 'technics' that's the cry from Mory's corner of the office. He's been complaining since we first employed him that he just didn't have the equipment to go out 'Bang and meeting with. This month, though, Tony's finally got his hands on everything he needs

to bring his 'rad' 'snooze' to the house. On the upside, this means we don't have to listen to endless looped breathers played through Octonoid. Unfortunately, it means that Tony has taken to wearing caps and oversized jackets in unusual ways and destroying the office record collection 'in the name of art'.

LISA COLLINS



'Trying to get you lot of stickers and wear shirts to actually smile down and do some work for a welcome change,' was Lisa's reply when we asked her what she had actually been doing this month. What that roughly translates to is that she has found the

Mystical Roll Of Of Ture — brought destroyed after the departure of Heather 'Crack The Whip' Ture. So it does us all round as members of staff get a good spanking for hounding in late copy. As I sit here writing this, I'm two weeks' past deadline. Goody.

» damaged beyond repair, and on this disk were two absolutely phenomenal tunes called mod 3 and mod fantasy. I absolutely loved these tunes, but all my Amiga-owning friends have not got this disk either. I have in my collection version 3 of MED, from a coverdisk of a nival magazine which I use extensively.

I would be glad if you could get in touch with me because it is too old a disk to get as a back issue, but if you still have these truly exquisite tunes hidden somewhere deep in your archives, I would be more than happy to send you a blank disk onto which you could write them. I'll even pay the return postage! I would be eternally in your debt and would kiss your shiny boots if you could get in touch.
Owen Williams, Worcester.

Coverdisk 23 was a long time ago, and unfortunately we don't have any copies of it left. The question is, how did you come to wipe out half your collection with a single virus? Were you being a little careless?

Remember: always switch off the machine for at least 30 seconds before loading a single, and if you have to swap a lot of disks in a single sitting, ensure that they are clean by checking them with a virus killer first.

BIGGER AND BETTER

I am writing to ask how much bigger my computer magazines are going to get. I own an Amiga A1200, alongside a Super Nintendo and a SEGA Mega Drive, and I have noticed the increasing tendency to stick large pieces of card behind the issue to make people think they are getting even better value for money.

How much further is it going to go before you have to start charging a higher price for the magazine? I would happily forgo the backing card and booklets to keep the mag at the same price but so long ago, a console magazine came mounted on a piece of card twice the size of the lemons, a booklet and a free can of lemonade. Naturally the coverprice went up, and although it seemed like a good value package at the time, once you had thrown the card away and drank the lemonade, all you were left with was the magazine itself.

CU AMIGA is the best on the shelf because of its high quality editorial - NOT what you can find plastered all over the magazine.

Yes, the coverdisks do influence the sales, and I have bought your rival magazines on the strength of their disks, but the fact that your editorial is better than theirs is the reason I keep coming back. Don't get gimmicky, CU. You can't need it.

Heather Redmond, Torquay

Don't worry, Heather, we aren't about to get all gimmicky on you. Last month we offered what we thought were some very strong promotions, and all no extra cost to you. Keep

your eyes peeled, because some even better ones are on the way.

DEEPLY SHOCKED

I recently had the misfortune to glance at a copy of CU AMIGA as my son is an avid reader. And, to be frank, I am very worried about the blatant use of sexism that prevails throughout the magazine. First of all, the cover image is a startled 18-year-old babe staring in amazement/horror at the coverlines of the magazine. What has this woman got to do with the contents of the magazine I asked myself? Well, absolutely nothing. This woman is a sad marketing ploy which holds to the school of thought that if you stick a woman on the front cover of any magazine, all the horny boys and men will flock in their droves to buy this magazine, regardless of the contents.

This attitude seems to be the main driving force behind computer magazines and indeed computer games. *Cover Girl Strip Poker* is one fine example of pornography parading as a computer game. However, back to your magazine. After passing over her bare on the front cover, I was confronted with *Vampyre*, another babe only this time dressed in a plunging neckline and spouting sexual innuendos in reply to gamers' queries about games. Does she know anything about games in real life? Does she hack? Again, she is another sad marketing ploy trying to entice men to read the pages using a bit of cleavage and dirty talk.

A worrying rerepresentation of all these blatant uses of sexual imagery is reflected in your readers' entries to your art gallery. Rogue Ness from Newey sent in his paper to Amiga conversion in the form of Ramona - a gravity-defying, bodacious woman clothed only in two minuscule strips of cloth over her nipples and strip of cloth wrapped around either thigh.

However, it is not just the readers who use this form of sexual imagery when they are exploring the capabilities of the Amiga. It is also the contributors. Smattered throughout the tutorials on the Amiga are images of semi-naked, big-busted women. These illustrations are used to demonstrate how your Amiga can help you to paint, draw, build your own robot, make videos, and so on. No matter the topic, a picture of a woman will appear somewhere on the pages. Why don't you just be done with it and publish the magazine on wipe-clean paper too?

A troubling note is that new games are coming into development which will allow you to have sex with characters in the game (Chris Crawford article). I want my son to grow up seeing women as human beings, not as big breasted, scantily-clad women who, if you push a few buttons, will strip off and have sex with you. A worried mother, Chelsea.

..OR NOT!

I'm just writing to say how much I enjoy your new advertising column. *Vampyre* really brightens up my month. How about a massive poster? How

about a 16-page pinout? What about running a compo so the winner could get a date with her? With my hardware and her software we'd make a great team! I could show her a couple of adventures, at night. Or else, telling that the girl on the cover would be a good date as well. I wouldn't lack her out of bed for sitting cross.

James Mitchellson, Newcastle Upon Tyne.

FINE TUNING

While experimenting with the sampler project I built by following the instructions in May's CU, I've found that if I alter the capacitor C2's value from 470nF to 47pF, I obtain better results. Why is this?
N Thompson, Beth.

As clearly stated in the article at the time, the value for C2 was found by experimentation. With my circuit the 470nF capacitor works fine. Due to different tolerances in chip design and the way your circuit is built, you may find - as suggested in the article - that smaller values work better. You may want to try 47nF as well before finishing with the soldering iron. By the way, the 4mF capacitor quoted for C1 is in real life a 4mF7 capacitor, as anyone with any knowledge of electronics will tell you.

SATISFIED CUSTOMER

In reference to your 'satisfied customer' item in the December CU AMIGA, I posted a cheque to Electronic Arts in Langley, Berks for a *DPaint 4* upgrade at 15pm one evening. The package arrived by return of post at 8.00 am - 38 and three quarters of an hour later. How's that for speed?
F.W. Brewer, Gloucestershire.

That's what we like to hear. Want to get something off your chest? Write to us at CU AMIGA, 30-32 Farrington Lane, London EC1R 3AU.

CLUB CALL

This month's Club of the Month is a little different from most we feature in that it's more technical than most. Phillip Krumm sent us *Witter* due to the lack of 'proper' support for the Amiga (it's not just the games side of things and leaning towards more serious stuff). So, all you people who use your machine for accounts, graphics, video production or programming - let us introduce you to *Witter*.

Based in Sunderland, Phillip has come to the rescue of those who wanted a more serious club, and the amount of time he's invested in it really shows. For a start, all members have complete access to his personal library of over 10,000 PD programs. Whatever you want, the chances are he has it. If you aren't a sure what you want, he can probably find it with his Amiga's TSP service. All you need to do is define the kind of program you need and what you want to use it for, and if he has a program that can do the job, he'll send it to you.

Members also receive a copy of *Witter* magazine, a disk-based editorial that contains hints, tips, members' letters and opinions, plus a whole host of other games, access to a postal help line plus books more. If you want more information, then write to Phillip at 213 Fairfield Road, Sunderland, Tyne and Wear SR4 0HF. Please enclose a SAE and a blank, formatted disk if you want a demo copy of *Witter*.

MAT BROOMFIELD

Congratulations to Mat on breaking the world record for the most words written in a week. Despite us calling him every five minutes to see how he's getting on or just to tax his brain with some lengthy-difficult technical problems like 'What's the catfish spoon?', Mat has managed to write an entire magazine completely on his own. This has been very encouraging for the rest of the team who intend to surprise him to his desk, so he can single-handedly produce our February issue while the rest of us have a Christmas break.



JOHN KENNEDY

John has 'Not been firing his kids because it is too cold.' Trying not to fall off his motorbike on the icy bits. 'Walking around with his fingers crossed to hear if he will produce.' Laughing and sneezing a lot. 'Picking dead mice off his garden path.' Lusting after a 480040 accelerator (sad). 'Pleading hard to get with Lisa C. on the telephone.' Lusting his brother how to pass his driving test (he failed). 'Trying to find time to write the best Amiga driving game ever



The Vidi Amiga Range

Rombo, are proud to announce the launch of their new range of Multimedia Digitisers.

Each digitiser has been designed with total flexibility in mind, by offering a cost effective upgrade path between models. Giving the user complete peace of mind, and the freedom to choose a digitiser for his present requirements. But reassuring him, that if those change, he can move up to the next model. All Vidi Amiga's now have a similar user interface, so moving between products is easy!



£199

*Real Time 12-bit
Image Capture*

Vidi Amiga (12)

Vidi Amiga (12) RT, offers all the functionality and specification of Vidi (24) RT, but in 12-bit. Capturing 4096 colour images in real-time from any video source. This includes TV, Video Recorder, Video Camera, Satellite etc. etc.

New user interface with powerful image processing and picture manipulation. Support for both composite and SVHS or VC inputs

Plug-in device with easy install software. Simple enough for the novice yet powerful enough for the professional. Compatible with all Amiga's. Never before has the Amiga market seen such value for money. Manufacturer upgrade available to Vidi Amiga (24) RT POA. Compatible with all AGA resolutions and colour modes.

£299

Vidi Amiga (24) RT, will push your Amiga to its limit. Real-time image capture in excess of broadcast quality. True colour, photo realistic picture files grabbed from any video source. Display resolutions up to 1472 x 576, what more can I say!

Vidi Amiga (24) RT offers a breakthrough for all Amiga users, taking them into the world of 24-bit image capture. With no restrictions on video equipment or Amiga hardware.

All the pictures shown on the full page Vidi Amiga (24) RT advert represent the actual printed output quality that can be achieved. Simply by sending the finished image file to a Bureau for output.

Throw away your scanner, its too much like hard work!

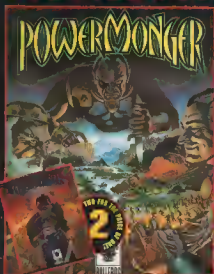
*Real Time 24-bit
Image Capture*

Vidi Amiga (24)



Rombo, Baird Rd, Kirkcaldy Campus, Livingston, Scotland.
Tel: 0506 414630 Fax: 0506 414634

JOIN THE SQUAD... PLAY AMIGA HITS



IN A WORLD WITHOUT KIBBS, POWER IS THE ONLY LAW!

His brother controls the destiny of this new world, yet you can't unite each territory by word or by sword or force. It's all at the hands of the other Powermongers. You can: Forge an alliance, spy on your enemies, let the weak and weakly grow to be attack! * Real-time action. * Up to 3 computer opponents. * 80 hours of world.

"Excellent."

"First time, outstanding... sets a standard of excellence." PC FORMAT



© 1989 Strategic Simulations Ltd.
Producers: LORIS, Artists: Steve Blandford, Arts Ltd.

PROTECT THE INNOCENT

"Kudos, your rocks off... you're never seen 3D as good as this. The 3D hero works extremely well and arguably makes Robocop 3 the best 3D license yet." ACE

UPHOLD THE LAW

"This is definitely one of the best 3D licenses ever." GAMES 2

SERVE THE PUBLIC TRUST

Robocop 3's Edge, you a fast 3D polygon shooter of action including... ALLEYWAY SHOOT-OUTS, CAR CHASE, AIM TO AIM COMBAT WITH ROBOT HITJACKS and much, much more.

TM & © 1989 Orion Productions Corporation.
All Rights Reserved.



HAMMER FROM THE HEART OF HELL

Years ago you was banished from the world. Now the dark lord Eternity is back with a legion of hell's sublimated souls. This is a... blood... You know how hard it was to recover the lost souls that were lost and Eternity and the sinister forces in the Black Crypt. But he... you're... you're over and... and close killing.

* Includes numerous on-line, race, and... * 12 demons, 20 levels including special multi-stage levels. * Over 50 fully animated spells and effects.

* Multiple sound effects and musical score.

© 1989 Strategic Simulations Ltd.
Producers: LORIS, Artists: Steve Blandford, Arts Ltd.



BATTLE YOUR WAY THROUGH BISKY WOBBO

At 200 levels, this is a game of... You know how hard it was to recover the lost souls that were lost and Eternity and the sinister forces in the Black Crypt. But he... you're... you're over and... and close killing.

* Includes numerous on-line, race, and... * 12 demons, 20 levels including special multi-stage levels. * Over 50 fully animated spells and effects.

* Multiple sound effects and musical score.

© 1989 Strategic Simulations Ltd.
Producers: LORIS, Artists: Steve Blandford, Arts Ltd.



FORTY WINKS. UNLIMITED POEY.

Arrived with 40... You know how hard it was to recover the lost souls that were lost and Eternity and the sinister forces in the Black Crypt. But he... you're... you're over and... and close killing.

* Includes numerous on-line, race, and... * 12 demons, 20 levels including special multi-stage levels. * Over 50 fully animated spells and effects.

* Multiple sound effects and musical score.

© 1989 Strategic Simulations Ltd.
Producers: LORIS, Artists: Steve Blandford, Arts Ltd.



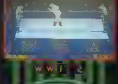
THE SUPER NUTS METROU

Once again, the... You know how hard it was to recover the lost souls that were lost and Eternity and the sinister forces in the Black Crypt. But he... you're... you're over and... and close killing.

* Includes numerous on-line, race, and... * 12 demons, 20 levels including special multi-stage levels. * Over 50 fully animated spells and effects.

* Multiple sound effects and musical score.

© 1989 Strategic Simulations Ltd.
Producers: LORIS, Artists: Steve Blandford, Arts Ltd.



© 1989 Strategic Simulations Ltd.
Producers: LORIS, Artists: Steve Blandford, Arts Ltd.



INTERSQUAD
2 CANTLEY STREET, CANTLEYFIELD
HATFIELD AL5 4JZ
TELEPHONE: 0454 433 0823
FAX: 0454 434 0450

[illegible][illegible]

1. **Introduction**
 2. **Background**
 3. **Methodology**
 4. **Results**
 5. **Conclusion**
 6. **References**
 7. **Appendix**
 8. **Index**
 9. **Table of Contents**
 10. **Summary**
 11. **Abstract**
 12. **Keywords**
 13. **Subject Headings**
 14. **Notes**
 15. **Footnotes**
 16. **References**
 17. **Appendix**
 18. **Index**
 19. **Table of Contents**
 20. **Summary**
 21. **Abstract**
 22. **Keywords**
 23. **Subject Headings**
 24. **Notes**
 25. **Footnotes**
 26. **References**
 27. **Appendix**
 28. **Index**
 29. **Table of Contents**
 30. **Summary**
 31. **Abstract**
 32. **Keywords**
 33. **Subject Headings**
 34. **Notes**
 35. **Footnotes**
 36. **References**
 37. **Appendix**
 38. **Index**
 39. **Table of Contents**
 40. **Summary**
 41. **Abstract**
 42. **Keywords**
 43. **Subject Headings**
 44. **Notes**
 45. **Footnotes**
 46. **References**
 47. **Appendix**
 48. **Index**
 49. **Table of Contents**
 50. **Summary**
 51. **Abstract**
 52. **Keywords**
 53. **Subject Headings**
 54. **Notes**
 55. **Footnotes**
 56. **References**
 57. **Appendix**
 58. **Index**
 59. **Table of Contents**
 60. **Summary**
 61. **Abstract**
 62. **Keywords**
 63. **Subject Headings**
 64. **Notes**
 65. **Footnotes**
 66. **References**
 67. **Appendix**
 68. **Index**
 69. **Table of Contents**
 70. **Summary**
 71. **Abstract**
 72. **Keywords**
 73. **Subject Headings**
 74. **Notes**
 75. **Footnotes**
 76. **References**
 77. **Appendix**
 78. **Index**
 79. **Table of Contents**
 80. **Summary**
 81. **Abstract**
 82. **Keywords**
 83. **Subject Headings**
 84. **Notes**
 85. **Footnotes**
 86. **References**
 87. **Appendix**
 88. **Index**
 89. **Table of Contents**
 90. **Summary**
 91. **Abstract**
 92. **Keywords**
 93. **Subject Headings**
 94. **Notes**
 95. **Footnotes**
 96. **References**
 97. **Appendix**
 98. **Index**
 99. **Table of Contents**
 100. **Summary**
 101. **Abstract**
 102. **Keywords**
 103. **Subject Headings**
 104. **Notes**
 105. **Footnotes**
 106. **References**
 107. **Appendix**
 108. **Index**
 109. **Table of Contents**
 110. **Summary**
 111. **Abstract**
 112. **Keywords**
 113. **Subject Headings**
 114. **Notes**
 115. **Footnotes**
 116. **References**
 117. **Appendix**
 118. **Index**
 119. **Table of Contents**
 120. **Summary**
 121. **Abstract**
 122. **Keywords**
 123. **Subject Headings**
 124. **Notes**
 125. **Footnotes**
 126. **References**
 127. **Appendix**
 128. **Index**
 129. **Table of Contents**
 130. **Summary**
 131. **Abstract**
 132. **Keywords**
 133. **Subject Headings**
 134. **Notes**
 135. **Footnotes**
 136. **References**
 137. **Appendix**
 138. **Index**
 139. **Table of Contents**
 140. **Summary**
 141. **Abstract**
 142. **Keywords**
 143. **Subject Headings**
 144. **Notes**
 145. **Footnotes**
 146. **References**
 147. **Appendix**
 148. **Index**
 149. **Table of Contents**
 150. **Summary**
 151. **Abstract**
 152. **Keywords**
 153. **Subject Headings**
 154. **Notes**
 155. **Footnotes**
 156. **References**
 157. **Appendix**
 158. **Index**
 159. **Table of Contents**
 160. **Summary**
 161. **Abstract**
 162. **Keywords**
 163. **Subject Headings**
 164. **Notes**
 165. **Footnotes**
 166. **References**
 167. **Appendix**
 168. **Index**
 169. **Table of Contents**
 170. **Summary**
 171. **Abstract**
 172. **Keywords**
 173. **Subject Headings**
 174. **Notes**
 175. **Footnotes**
 176. **References**
 177. **Appendix**
 178. **Index**
 179. **Table of Contents**
 180. **Summary**
 181. **Abstract**
 182. **Keywords**
 183. **Subject Headings**
 184. **Notes**
 185. **Footnotes**
 186. **References**
 187. **Appendix**
 188. **Index**
 189. **Table of Contents**
 190. **Summary**
 191. **Abstract**
 192. **Keywords**
 193. **Subject Headings**
 194. **Notes**
 195. **Footnotes**
 196. **References**
 197. **Appendix**
 198. **Index**
 199. **Table of Contents**
 200. **Summary**
 201. **Abstract**
 202. **Keywords**
 203. **Subject Headings**
 204. **Notes**
 205. **Footnotes**
 206. **References**
 207. **Appendix**
 208. **Index**
 209. **Table of Contents**
 210. **Summary**
 211. **Abstract**
 212. **Keywords**
 213. **Subject Headings**
 214. **Notes**
 215. **Footnotes**
 216. **References**
 217. **Appendix**
 218. **Index**
 219. **Table of Contents**
 220. **Summary**
 221. **Abstract**
 222. **Keywords**
 223. **Subject Headings**
 224. **Notes**
 225. **Footnotes**
 226. **References**
 227. **Appendix**
 228. **Index**
 229. **Table of Contents**
 230. **Summary**
 231. **Abstract**
 232. **Keywords**
 233. **Subject Headings**
 234. **Notes**
 235. **Footnotes**
 236. **References**
 237. **Appendix**
 238. **Index**
 239. **Table of Contents**
 240. **Summary**
 241. **Abstract**
 242. **Keywords**
 243. **Subject Headings**
 244. **Notes**
 245. **Footnotes**
 246. **References**
 247. **Appendix**
 248. **Index**
 249. **Table of Contents**
 250. **Summary**
 251. **Abstract**
 252. **Keywords**
 253. **Subject Headings**
 2

[illegible][illegible]

| REGISTRATION | | | |
|-----------------|------------|----------|----------|
| NAME | DATE | TIME | LOCATION |
| John Doe | 10/10/2023 | 10:00 AM | Room 101 |
| Jane Smith | 10/10/2023 | 11:00 AM | Room 102 |
| Bob Johnson | 10/10/2023 | 12:00 PM | Room 103 |
| Alice Brown | 10/10/2023 | 1:00 PM | Room 104 |
| Charlie Davis | 10/10/2023 | 2:00 PM | Room 105 |
| Eve White | 10/10/2023 | 3:00 PM | Room 106 |
| Frank Green | 10/10/2023 | 4:00 PM | Room 107 |
| Grace Black | 10/10/2023 | 5:00 PM | Room 108 |
| Henry Blue | 10/10/2023 | 6:00 PM | Room 109 |
| Ivy Red | 10/10/2023 | 7:00 PM | Room 110 |
| Jack Yellow | 10/10/2023 | 8:00 PM | Room 111 |
| Karen Purple | 10/10/2023 | 9:00 PM | Room 112 |
| Leo Orange | 10/10/2023 | 10:00 PM | Room 113 |
| Mia Silver | 10/10/2023 | 11:00 PM | Room 114 |
| Noah Gold | 10/10/2023 | 12:00 AM | Room 115 |
| Olivia Bronze | 10/10/2023 | 1:00 AM | Room 116 |
| Peter Platinum | 10/10/2023 | 2:00 AM | Room 117 |
| Quinn Diamond | 10/10/2023 | 3:00 AM | Room 118 |
| Rachel Ruby | 10/10/2023 | 4:00 AM | Room 119 |
| Sam Sapphire | 10/10/2023 | 5:00 AM | Room 120 |
| Tina Emerald | 10/10/2023 | 6:00 AM | Room 121 |
| Umar Jade | 10/10/2023 | 7:00 AM | Room 122 |
| Victoria Garnet | 10/10/2023 | 8:00 AM | Room 123 |
| Walter Opal | 10/10/2023 | 9:00 AM | Room 124 |
| Xavier Amethyst | 10/10/2023 | 10:00 AM | Room 125 |
| Yara Citrine | 10/10/2023 | 11:00 AM | Room 126 |
| Zoe Malachite | 10/10/2023 | 12:00 PM | Room 127 |

| 2010-2011 | | 2011-2012 | | 2012-2013 | |
|-------------|-----------|-----------|-----------|-----------|-----------|
| Revenue | 1,000,000 | 1,000,000 | 1,000,000 | 1,000,000 | 1,000,000 |
| Expenses | 800,000 | 800,000 | 800,000 | 800,000 | 800,000 |
| Net Income | 200,000 | 200,000 | 200,000 | 200,000 | 200,000 |
| Assets | 1,000,000 | 1,000,000 | 1,000,000 | 1,000,000 | 1,000,000 |
| Liabilities | 800,000 | 800,000 | 800,000 | 800,000 | 800,000 |
| Equity | 200,000 | 200,000 | 200,000 | 200,000 | 200,000 |

| Item | Unit | Price | Quantity | Total |
|----------|------|-------|----------|-------|
| 1. 1000 | 1000 | 1000 | 1000 | 1000 |
| 2. 1000 | 1000 | 1000 | 1000 | 1000 |
| 3. 1000 | 1000 | 1000 | 1000 | 1000 |
| 4. 1000 | 1000 | 1000 | 1000 | 1000 |
| 5. 1000 | 1000 | 1000 | 1000 | 1000 |
| 6. 1000 | 1000 | 1000 | 1000 | 1000 |
| 7. 1000 | 1000 | 1000 | 1000 | 1000 |
| 8. 1000 | 1000 | 1000 | 1000 | 1000 |
| 9. 1000 | 1000 | 1000 | 1000 | 1000 |
| 10. 1000 | 1000 | 1000 | 1000 | 1000 |
| 11. 1000 | 1000 | 1000 | 1000 | 1000 |
| 12. 1000 | 1000 | 1000 | 1000 | 1000 |
| 13. 1000 | 1000 | 1000 | 1000 | 1000 |
| 14. 1000 | 1000 | 1000 | 1000 | 1000 |
| 15. 1000 | 1000 | 1000 | 1000 | 1000 |
| 16. 1000 | 1000 | 1000 | 1000 | 1000 |
| 17. 1000 | 1000 | 1000 | 1000 | 1000 |
| 18. 1000 | 1000 | 1000 | 1000 | 1000 |
| 19. 1000 | 1000 | 1000 | 1000 | 1000 |
| 20. 1000 | 1000 | 1000 | 1000 | 1000 |
| 21. 1000 | 1000 | 1000 | 1000 | 1000 |
| 22. 1000 | 1000 | 1000 | 1000 | 1000 |
| 23. 1000 | 1000 | 1000 | 1000 | 1000 |
| 24. 1000 | 1000 | 1000 | 1000 | 1000 |
| 25. 1000 | 1000 | 1000 | 1000 | 1000 |
| 26. 1000 | 1000 | 1000 | 1000 | 1000 |
| 27. 1000 | 1000 | 1000 | 1000 | 1000 |
| 28. 1000 | 1000 | 1000 | 1000 | 1000 |
| 29. 1000 | 1000 | 1000 | 1000 | 1000 |
| 30. 1000 | 1000 | 1000 | 1000 | 1000 |
| 31. 1000 | 1000 | 1000 | 1000 | 1000 |
| 32. 1000 | 1000 | 1000 | 1000 | 1000 |
| 33. 1000 | 1000 | 1000 | 1000 | 1000 |
| 34. 1000 | 1000 | 1000 | 1000 | 1000 |
| 35. 1000 | 1000 | 1000 | 1000 | 1000 |
| 36. 1000 | 1000 | 1000 | 1000 | 1000 |
| 37. 1000 | 1000 | 1000 | 1000 | 1000 |
| 38. 1000 | 1000 | 1000 | 1000 | 1000 |
| 39. 1000 | 1000 | 1000 | 1000 | 1000 |
| 40. 1000 | 1000 | 1000 | 1000 | 1000 |
| 41. 1000 | 1000 | 1000 | 1000 | 1000 |
| 42. 1000 | 1000 | 1000 | 1000 | 1000 |
| 43. 1000 | 1000 | 1000 | 1000 | 1000 |
| 44. 1000 | 1000 | 1000 | 1000 | 1000 |
| 45. 1000 | 1000 | 1000 | 1000 | 1000 |
| 46. 1000 | 1000 | 1000 | 1000 | 1000 |
| 47. 1000 | 1000 | 1000 | 1000 | 1000 |
| 48. 1000 | 1000 | 1000 | 1000 | 1000 |
| 49. 1000 | 1000 | 1000 | 1000 | 1000 |
| 50. 1000 | 1000 | 1000 | 1000 | 1000 |
| 51. 1000 | 1000 | 1000 | 1000 | 1000 |
| 52. 1000 | 1000 | 1000 | 1000 | 1000 |
| 53. 1000 | 1000 | 1000 | 1000 | 1000 |
| 54. 1000 | 1000 | 1000 | 1000 | 1000 |
| 55. 1000 | 1000 | 1000 | 1000 | 1000 |
| 56. 1000 | 1000 | 1000 | 1000 | 1000 |
| 57. 1000 | 1000 | 1000 | 1000 | 1000 |
| 58. 1000 | 1000 | 1000 | 1000 | 1000 |
| 59. 1000 | 1000 | 1000 | 1000 | 1000 |
| 60. 1000 | 1000 | 1000 | 1000 | 1000 |
| 61. 1000 | 1000 | 1000 | 1000 | 1000 |
| 62. 1000 | 1000 | 1000 | 1000 | 1000 |
| 63. 1000 | 1000 | 1000 | 1000 | 1000 |
| 64. 1000 | 1000 | 1000 | 1000 | 1000 |
| 65. 1000 | 1000 | 1000 | 1000 | 1000 |
| 66. 1000 | 1000 | 1000 | 1000 | 1000 |
| 67. 1000 | 100 | | | |

| Table 1. <i>Continued</i> | | | |
|----------------------------|------|-------|--------|
| Item | Unit | Price | Weight |
| 1000 g of dry hay | kg | 1.00 | 1.00 |
| 1000 g of dry straw | kg | 1.00 | 1.00 |
| 1000 g of dry silage | kg | 1.00 | 1.00 |
| 1000 g of dry concentrate | kg | 1.00 | 1.00 |
| 1000 g of dry water | kg | 1.00 | 1.00 |
| 1000 g of dry air | kg | 1.00 | 1.00 |
| 1000 g of dry soil | kg | 1.00 | 1.00 |
| 1000 g of dry wood | kg | 1.00 | 1.00 |
| 1000 g of dry stone | kg | 1.00 | 1.00 |
| 1000 g of dry brick | kg | 1.00 | 1.00 |
| 1000 g of dry concrete | kg | 1.00 | 1.00 |
| 1000 g of dry metal | kg | 1.00 | 1.00 |
| 1000 g of dry glass | kg | 1.00 | 1.00 |
| 1000 g of dry paper | kg | 1.00 | 1.00 |
| 1000 g of dry plastic | kg | 1.00 | 1.00 |
| 1000 g of dry rubber | kg | 1.00 | 1.00 |
| 1000 g of dry leather | kg | 1.00 | 1.00 |
| 1000 g of dry wool | kg | 1.00 | 1.00 |
| 1000 g of dry hair | kg | 1.00 | 1.00 |
| 1000 g of dry bone | kg | 1.00 | 1.00 |
| 1000 g of dry skin | kg | 1.00 | 1.00 |
| 1000 g of dry fur | kg | 1.00 | 1.00 |
| 1000 g of dry feather | kg | 1.00 | 1.00 |
| 1000 g of dry egg | kg | 1.00 | 1.00 |
| 1000 g of dry milk | kg | 1.00 | 1.00 |
| 1000 g of dry cheese | kg | 1.00 | 1.00 |
| 1000 g of dry butter | kg | 1.00 | 1.00 |
| 1000 g of dry oil | kg | 1.00 | 1.00 |
| 1000 g of dry sugar | kg | 1.00 | 1.00 |
| 1000 g of dry salt | kg | 1.00 | 1.00 |
| 1000 g of dry acid | kg | 1.00 | 1.00 |
| 1000 g of dry alkali | kg | 1.00 | 1.00 |
| 1000 g of dry gas | kg | 1.00 | 1.00 |
| 1000 g of dry electricity | kg | 1.00 | 1.00 |
| 1000 g of dry heat | kg | 1.00 | 1.00 |
| 1000 g of dry light | kg | 1.00 | 1.00 |
| 1000 g of dry sound | kg | 1.00 | 1.00 |
| 1000 g of dry smell | kg | 1.00 | 1.00 |
| 1000 g of dry taste | kg | 1.00 | 1.00 |
| 1000 g of dry touch | kg | 1.00 | 1.00 |
| 1000 g of dry thought | kg | 1.00 | 1.00 |
| 1000 g of dry feeling | kg | 1.00 | 1.00 |
| 1000 g of dry emotion | kg | 1.00 | 1.00 |
| 1000 g of dry will | kg | 1.00 | 1.00 |
| 1000 g of dry power | kg | 1.00 | 1.00 |
| 1000 g of dry knowledge | kg | 1.00 | 1.00 |
| 1000 g of dry wisdom | kg | 1.00 | 1.00 |
| 1000 g of dry love | kg | 1.00 | 1.00 |
| 1000 g of dry hate | kg | 1.00 | 1.00 |
| 1000 g of dry hope | kg | 1.00 | 1.00 |
| 1000 g of dry fear | kg | 1.00 | 1.00 |
| 1000 g of dry faith | kg | 1.00 | 1.00 |
| 1000 g of dry charity | kg | 1.00 | 1.00 |
| 1000 g of dry justice | kg | 1.00 | 1.00 |
| 1000 g of dry peace | kg | 1.00 | 1.00 |
| 1000 g of dry war | kg | 1.00 | 1.00 |
| 1000 g of dry death | kg | 1.00 | 1.00 |
| 1000 g of dry life | kg | 1.00 | 1.00 |
| 1000 g of dry heaven | kg | 1.00 | 1.00 |
| 1000 g of dry hell | kg | 1.00 | 1.00 |
| 1000 g of dry paradise | kg | 1.00 | 1.00 |
| 1000 g of dry purgatory | kg | 1.00 | 1.00 |
| 1000 g of dry hellfire | kg | 1.00 | 1.00 |
| 1000 g of dry heavenly | kg | 1.00 | 1.00 |
| 1000 g of dry hellish | kg | 1.00 | 1.00 |
| 1000 g of dry paradisaical | kg | 1.00 | 1.00 |
| 1000 g of dry purgatorial | kg | 1.00 | 1.00 |
| 1000 g of dry hellish | kg | 1.00 | 1.00 |
| 1000 g of dry heavenly | kg | 1.00 | 1.00 |
| 1000 g of dry hellish | kg | 1.00 | 1.00 |
| 1000 g of dry paradisaical | kg | 1.00 | 1.00 |
| 1000 g of dry purgatorial | kg | 1.00 | 1.00 |
| 1000 g of dry hellish | kg | 1.00 | 1.00 |
| 1000 g of dry heavenly | kg | 1.00 | 1.00 |
| 1000 g of dry hellish | kg | 1.00 | 1.00 |
| 1000 g of dry paradisaical | kg | 1.00 | 1.00 |
| 1000 g of dry purgatorial | kg | 1.00 | 1.00 |
| 1000 g of dry hellish | kg | 1.00 | 1.00 |
| 1000 g of dry heavenly | kg | 1.00 | 1.00 |
| 1000 g of dry hellish | kg | 1.00 | 1.00 |
| 1000 g of dry paradisaical | kg | 1.00 | 1.00 |
| 1000 g of dry purgatorial | kg | 1.00 | 1.00 |
| 1000 g of dry hellish | kg | 1.00 | 1.00 |
| | | | |

| A | | B | | C | | D | | E | | F | | G | | H | | I | | J | | K | | L | | M | | N | | O | | P | | Q | | R | | S | | T | | U | | V | | W | | X | | Y | | Z | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |

[illegible]

47
 48
 49
 50
 51
 52
 53
 54
 55
 56
 57
 58
 59
 60
 61
 62
 63
 64
 65
 66
 67
 68
 69
 70
 71
 72
 73
 74
 75
 76
 77
 78
 79
 80
 81
 82
 83
 84
 85
 86
 87
 88
 89
 90
 91
 92
 93
 94
 95
 96
 97
 98
 99
 100
 101
 102
 103
 104
 105
 106
 107
 108
 109
 110
 111
 112
 113
 114
 115
 116
 117
 118
 119
 120
 121
 122
 123
 124
 125
 126
 127
 128
 129
 130
 131
 132
 133
 134
 135
 136
 137
 138
 139
 140
 141
 142
 143
 144
 145
 146
 147
 148
 149
 150
 151
 152
 153
 154
 155
 156
 157
 158
 159
 160
 161
 162
 163
 164
 165
 166
 167
 168
 169
 170
 171
 172
 173
 174
 175
 176
 177
 178
 179
 180
 181
 182
 183
 184
 185
 186
 187
 188
 189
 190
 191
 192
 193
 194
 195
 196
 197
 198
 199
 200
 201
 202
 203
 204
 205
 206
 207
 208
 209
 210
 211
 212
 213
 214
 215
 216
 217
 218
 219
 220
 221
 222
 223
 224
 225
 226
 227
 228
 229
 230
 231
 232
 233
 234
 235
 236
 237
 238
 239
 240
 241
 242
 243
 244
 245
 246
 247
 248
 249
 250
 251
 252
 253
 254
 255
 256
 257
 258
 259
 260
 261
 262
 263
 264
 265
 266
 267
 268
 269
 270
 271
 272
 273
 274
 275
 276
 277
 278
 279
 280
 281
 282
 283
 284
 285
 286
 287
 288
 289
 290
 291
 292
 293
 294
 295
 296
 297
 298
 299
 300
 301
 302
 303
 304
 305
 306
 307
 308
 309
 310
 311
 312
 313
 314
 315
 316
 317
 318
 319
 320
 321
 322
 323
 324
 325
 326
 327
 328
 329
 330
 331
 332
 333
 334
 335
 336
 337
 338
 339
 340
 341
 342
 343
 344
 345
 346
 347
 348
 349
 350
 351
 352
 353
 354
 355
 356
 357
 358
 359
 360
 361
 362
 363
 364
 365
 366
 367
 368
 369
 370
 371
 372
 373
 374
 375
 376
 377
 378
 379
 380
 381
 382
 383
 384
 385
 386
 387
 388
 389
 390
 391
 392
 393
 394
 395
 396
 397
 398
 399
 400
 401
 402
 403
 404
 405
 406
 407
 408
 409
 410
 411
 412
 413
 414
 415
 416
 417
 418
 419
 420
 421
 422
 423
 424
 425
 426
 427
 428
 429
 430
 431
 432
 433
 434
 435
 436
 437
 438
 439
 440
 441
 442
 443
 444
 445
 446
 447
 448
 449
 450
 451
 452
 453
 454
 455
 456
 457
 458
 459
 460
 461
 462
 463
 464
 465
 466
 467
 468
 469
 470
 471
 472
 473
 474
 475
 476
 477
 478
 479
 480
 481
 482
 483
 484
 485
 486
 487
 488
 489
 490
 491
 492
 493
 494
 495
 496
 497
 498
 499
 500
 501
 502
 503
 504
 505
 506
 507
 508
 509
 510
 511
 512
 513
 514
 515
 516
 517
 518
 519
 520
 521
 522
 523
 524
 525
 526
 527
 528
 529
 530
 531
 532
 533
 534
 535
 536
 537
 538
 539
 540
 541
 542
 543
 544
 545
 546
 547
 548
 549
 550
 551
 552
 553
 554
 555
 556
 557
 558
 559
 560
 561
 562
 563
 564

NOTE